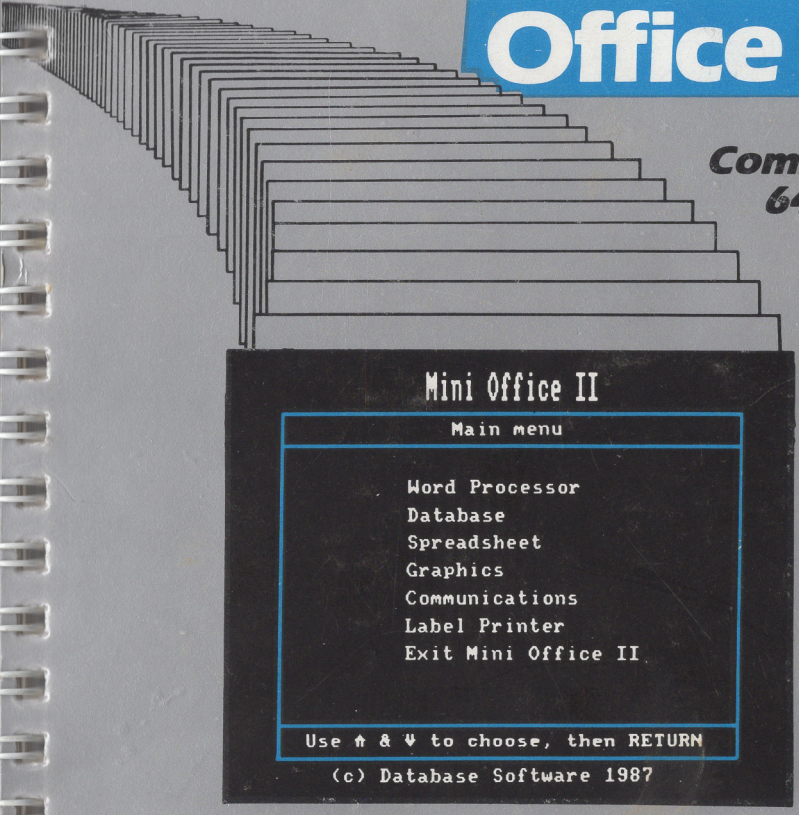
DATABASE SOFTWARE

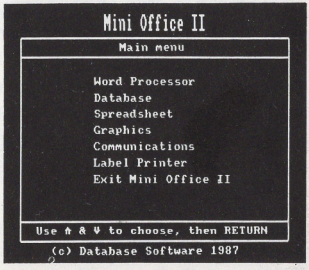
# Mini Office II

**Commodore 64/128**



# WELCOME TO MINI OFFICE II

MINI OFFICE II provides the six most essential pieces of business software in a single, user-friendly, integrated package.




These elements are:

- A powerful Word Processor.
- A comprehensive Database.
- A sophisticated Spreadsheet.
- An effective Graphics system.
- An easy-to-use Communications system.
- A useful Label printer program.

Also included are utilities to convert files produced by the original Mini Office package to a format acceptable to the much more advanced Mini Office II.

Each of the six modules performs a series of specific tasks. What follows in these pages is advice on how to choose the module that is most suitable for the task you need to carry out, how to use the chosen module so that it gives you the greatest long-term benefit, and how to use the data entered in one of the modules of Mini Office II from within another of the modules in the package.

## WHAT DOES EACH MODULE OF MINI OFFICE II DO?

AN office is required to carry out a wide number of tasks if it is to handle efficiently all the administrative tasks that are demanded of it. The remainder of this opening section describes the basic function of each module of Mini Office II in order to help you determine which is best suited to the task you wish to perform.

## WORD PROCESSING

PERHAPS the most common administrative task, and almost certainly the most time-consuming, is that of producing correspondence, memos, reports, exercises, texts and so on. These may be short or long, simple or complex, "one-offs" or repetitive. It is really unimportant which of these classifications your writing falls

into. What is essential is that it expresses your thoughts precisely and briefly, is grammatically correct, has no spelling errors, and is clearly and attractively laid out.

No-one, no matter how talented, will produce even a short piece of writing which completely fulfils all four requirements at the first attempt. A Word Processor is the only tool available at present which allows a writer to modify his text without constantly copying, erasing and/or redrafting his words. Using the power of the computer to store, manipulate and display data, the author can modify or correct his initial creation until he is completely satisfied it fulfils his needs.

All you require to transform a dull, error-ridden piece of prose into an attractive, concise, expressive document is to learn the Word Processor's few, simple commands.

## DATABASE

THE next task an office needs to perform at regular intervals is filing. The use of steel cabinets or box files can never be completely satisfactory, because the item filed can only be retrieved from a single place.

Imagine you receive an order for 10 of your products from ABC Ltd on January 12, 1987. Using an ordinary filing cabinet does the order get filed under Customer, Product, Date of Order, or all three? Whatever you file it under there will be frequent occasions when people will look under the wrong heading to find it, like looking under Product when the order was in the Customer folder. The simple act of removing the order to look at it will increase the risk of mislaying it, or returning it to the wrong place, such as into a Date folder. You could of course file multiple copies but it will cost a fortune in copying costs, prove increasingly bulky as time passes and also treble the risk of misplacing the documents on return to the filing cabinet.

The benefits of a Database are legion. The most important are:

- A single record – the computer equivalent of a single document in the steel cabinet – may be found by reference to any or all of the categories above: Customer, Product or Date of Order.
- Studying the contents of any part of the file does not require removal of any record from the file, thus ensuring that data cannot be "lost".
- There is no reason why retrieval of the records need not be achieved using further classifications at no extra cost, such as Sales Representative responsible for

the Order, Value of Order, Required Delivery Date and so on.

- Records in the file can be sorted in a wide variety of different orders, prior to listing on the printer or presenting on the screen.
- Information from database files can be merged into the word processor making multiple mailings more personal.

## SPREADSHEET

OFFICES need to carry out a large number of calculations. Most of these are highly repetitive and yet subject to frequent and random changes. This is particularly true when planning for the future, as in setting targets or organising budgets. Suppliers' prices, interest rates, discounts, sales volumes and so on are all unpredictable, which means that every permutation of possible events must be considered in order that a profit will be produced at the end of the year. Even in simpler circumstances calculations can be vital, such as: *How much can a cricket club afford to spend on new equipment if the membership rises to 35 and the fees are . . . "*

The Spreadsheet can be used in every case where tabular information needs computing. The format is a table of figures – called a matrix – and it can be as large or as small as your requirement demands. It may contain any number of rows, identified by numbers, and any number of columns, identified by letters. Once the overall size has been determined, each cell of the matrix – a cell is where a row and column intersect – can have entered into it a number (such as 3.47), text (such as PRICE/ITEM), or formula (such as AD3 + AD5).

When you have created your matrix the Spreadsheet is commanded to calculate the figures and the formulae will produce the required results. Recalculation with a completely different set of numbers in any cell takes just a matter of moments, since all that is needed is to change the numbers and request a recalculation. Even people with no programming experience and only the most elementary mathematical ability can quickly and easily set up sophisticated calculations.

## GRAPHICS

WHILE the Spreadsheet is an exceptionally efficient way of handling large volumes of repetitive calculations, it does have one serious drawback. This is that the average person can suffer arithmetic indigestion when confronted by a large table

of numbers. Individual figures are never a problem, and only very rarely does a list of figures present any difficulty. It is when trying to detect relationships and trends in the table that the interpretation of the results becomes at best a chore and at worst problematic.

It is for this reason that Mini Office II features a powerful Graphics module. It takes figures that have been typed in directly or which have been previously saved using the Spreadsheet, and redisplays them as a series of graphs or diagrams, in order that the situation demonstrated by the many calculations can be better understood.

## COMMUNICATIONS

MORE and more companies are now realising the benefits of electronic mail and going "online" – linking their micro to the telephone and communicating directly with other offices, not only in Britain but all round the world.

In the past, most computer communications packages were a jungle of mumbo-jumbo and barely understandable jargon. The Mini Office II Communications module gets rid of all that and, via a few simple keystroke commands, gets you online to the database of your choice – quickly, and with the minimum of fuss.

Electronic mail (Email) is one of the main reasons why most computer owners purchase a modem. The MicroLink Email system allows you, along with thousands of other modem-owners wherever they are in the UK, to dial up to the MicroLink mainframe computer by making a local telephone call. This flexibility, combined with low telephone costs, means that you can send an Email letter for less than the cost of a first class stamp.

By simply plugging your computer into a modem, and your modem into the telephone socket, the exciting world of online living opens up, and at a surprisingly low price. (There are more details of the types of modem and necessary interfaces in the Communication section of this manual.)

As well as the ability to send electronic mail to the thousands of other modem owners on Telecom Gold, MicroLink has several other features that place it ahead of other Email systems in the UK, such as the ability to send and receive telexes, telemessages and even send flowers using FloraLink. In addition to this, MicroLink

also offers low-cost gateways into other networks, including one American database that allows you to chat, via your keyboard, with other computer owners all across America.

## LABEL PRINTING

LABEL printing is ideally suited for computerisation, either the printing of individual text from database files, or multiple printing of labels bearing the same information. Both these can be performed simply and speedily by Mini Office II.

You can print as many labels as you require in one operation, and they can be of any shape or size.

## RUNNING MINI OFFICE II

NOW that the six elements of Mini Office II have been introduced and you are familiar with the use you will be able to put them to, this handbook will explain each of them in detail.

The first stage is obviously getting Mini Office II up and running. Tape or disc, this could not be easier.

**Mini Office II on tape:**

- *Place the Mini Office II cassette in the player.*
- *Type:*

***LOAD "WORD"*** *for the Word Processor.*
***LOAD "DATABASE"*** *for the Database.*
***LOAD "SPREAD"*** *for the Spreadsheet.*
***LOAD "GRAPH"*** *for the Graphics package.*
***LOAD "COMMS1"*** *for the user port Comms package.*
***LOAD "COMMS2"*** *for the Compunet modem Comms package.*
***LOAD "LABELS"*** *for the Label Printer.*

The start menu of the module you selected will appear once the appropriate section of the tape has been loaded.

**Mini Office II on disc:**

- *Place the Mini Office II disc in the disc drive.*

- *On the Commodore 64 type:*

***LOAD "OFFICE",8,1***

- *On the Commodore 128 reset the computer.*
- *Select the required program from the menu.*
- *The communication package for the Compunet modem is not available from the disc menu. To run the Compunet comms module type:*

***LOAD "COMMS",8,1***

## ABOUT THE MENUS

MINI OFFICE II is operated through the use of menus – lists of options from which you choose as follows:

- *Move the highlight to the option you wish to select by means of the cursor keys.*
- *Make your selection by pressing the Return key.*

In some cases another menu will be presented before the action you requested is carried out. This menu selection procedure allows you to perform complex activities without needing to know anything about the internal workings of the computer. The options presented will be expressed in terms you are familiar with, such as PRINT TEXT or SAVE TEXT. Having made your choice, you will be informed on the screen when the task has been completed. If the option you require is irreversible, you will be asked to confirm your choice by pressing Y for YES or N for NO.

In most cases, while the menu is on the screen you will be able to directly access the Commodore disc operating system by using the @ command – such as @$ to display the directory of a disc.

Menu selection is an extremely simple and safe way of performing your tasks. Therefore feel free to experiment. This is the quickest way to learn about the large number of facilities contained in the Mini Office II package. Rest assured that there is nothing you can do to harm the software. If you make an impossible request of Mini Office II, you will be told and no action will take place – other than a menu being presented to allow you to choose again.

At most times while you're using Mini Office II, pressing Stop will abort the current operation or take you back to the previous menu.

## PRINTERS

COMMODORE MPS801/803/1000 and Epson compatible printers are fully supported by Mini Office II except where stated. However most printers should work adequately with the package except where special printer features are utilised, such as when printing screen dumps from the Graphics program.

Commodore printers should be connected to the Commodore serial port in the usual way and are usually recognised as CBM device 4. However allowances have been made for printers which are addressed as devices 5, 6 or 7. You can select the printer device required from the Hardware options menu in all the programs except Communications where the printer device selection can be found in the Buffer options menu. When you start any program device 4 is automatically set so no change is needed if your printer is of the usual Commodore type.

Serial printers should be connected to the user port via an RS232 interface. The printers baud rate must be set to 2400 baud and the frame format must be 8 bits, no parity and 1 stop bit and handshaking. To use a serial printer you must set the printer device to RS232 as described above.

A Centronics printer driver which allows parallel printers such as the Epson series to be connected directly to the user port is also built into the package. The lead connecting the printer to the user port must be wired in the following way:

| PARALLEL PRINTER | | CBM USER PORT | |
|---|---|---|---|
| PIN | TYPE | PIN | TYPE |
| 1 | STROBE | M | PA2 |
| 2-9 | DATA1 to DATA8 | C-L | PB0 to PB7 |
| 10 | ACKNLG | B | FLAG2 |
| 17 | CHASSIS GND | A | GND |

Your printer manual and Commodore user manual gives more information about the wiring. To use this type of printer you will need to set the printer device to Centronics.

In all programs it is assumed that an Epson or compatible printer is being used when the printer device is set to RS232 or Centronics.

None of the programs send line feeds to the printer. This is of no importance for Commodore printers, but you need to set the switches inside Epson and compatible printers to provide auto line feed. Refer to your printer manual for information on how to do this.

## SPECIAL PRINTER FEATURES

THE various features that are supported by your printer, such as italic, enhanced or underlined characters, can be selected by sending the correct sequence of control codes to the printer. Unfortunately these codes are not standardised and vary between different makes of printer. The styles available on your printer will be listed in your printer manual along with the control codes required to select them. The Wordprocessor, Spreadsheet and Label Printer modules allow you to send the codes directly to the printer giving easy access to the various features available.

Details of where and how to enter the codes are in individual instructions for each program, but it is sometimes difficult to work out the actual codes that select the particular feature you require. The following is a short explanation of the way codes are usually presented.

In Commodore printer manuals the control codes are shown as CHR$(n). When you specify the code from within a Mini Office II module you must only enter the number – n – shown in the brackets.

For example, the code for enhanced printing is shown as CHR$(14). You would therefore enter 14 to select enhanced printing from a Mini Office II module.

For Epson and compatible printers the required codes are usually shown as a sequence of symbols rather than actual numbers. This means that you will need to look up the corresponding numeric code for each symbol by using an Ascii table usually included in your printer manual.

For example ESC 4 will select italic printing. By looking up the Ascii codes for the symbols ESC and 4 you will find that the numbers you will need to enter are 27 and 52.

## SAVING FILES

A SPECIAL filename convention has been adopted for data files used by each module of the Mini Office II package. To help identify which files originate from a

particular module, every filename has a three character suffix automatically added as follows:

| | |
|---|---|
| Word Processor (Mini Office II format) | .txt |
| Word Processor (Ascii format) | .asc |
| Database | .dbs |
| Spreadsheet | .spr |
| Graphics | .gra |
| Label Printer (Label format) | .frm |

The maximum length for any filename, excluding the suffix, is 12 characters. The programs automatically add the correct suffix to a filename when loading or saving so you must not include the suffix yourself when specifying a filename.

**File saving on disc.** When you save to disc using an existing filename — that is one that is already on the disc — the existing file will have its suffix changed to .bak before the new one is saved. This allows you to back-track to the previous version of the file if necessary.

If you specify a file for loading that does not exist on the disc currently in the drive, the program will automatically try and load the equivalent .bak file. (This does not apply to the spreadsheet program.) If you want to load a .bak file directly, you will need to rename the file so that it includes the correct suffix as previously described.

**File saving on tape.** When you save to tape from the Database, Spreadsheet, Graphics and Label Printer your files are saved in a special turbo format. It is therefore important to note the position of the tape when you save files from these programs as the normal Commodore tape system will not recognise them. The Word Processor and Communications modules save files in the normal Commodore tape format so that files can be interchanged with those from other packages.

Remember that discs and tapes can become corrupted. If that happens you run the risk of losing all your data. There is a simple way of avoiding such disaster — *make back-up copies of your data discs regularly.* This excellent advice is often given, and rarely followed by those who have not yet suffered . . .

So for safety's sake, save your files at least twice and store the copies in separate places. Also note that when you save data it is a file and not a program that you have saved. Therefore it has to be loaded via the appropriate LOAD option from a Mini Office II menu. It will NOT work if you attempt to LOAD then RUN it.

## CONVERTING FILES

INCLUDED with Mini Office II are utilities allowing data files created with the original Mini Office to be converted into the format used by Mini Office II.

**Mini Office II on tape:**

- ***LOAD "WPCON"*** *for word processor conversion.*
- ***LOAD "DBCON"*** *for database conversion.*
- ***LOAD "SPCON"*** *for spreadsheet conversion.*

These programs can be found after the Label Printer program on Side 2 of the tape.

**Mini Office II on disc:**

- *Place the Mini Office II disc in the disc drive.*
- *Type:*
  ***LOAD "CONVERT",8,1*** *and you will be provided with a menu from which you can select the required conversion module.*

Once the appropriate program has loaded follow the on screen prompts and the files will be converted.

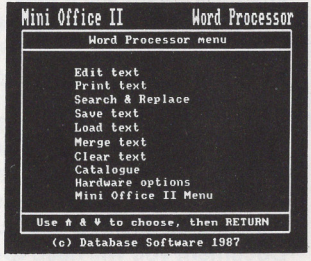
*While every effort is made to ensure the accuracy of the programs and manual, Database Software cannot accept responsibility for any imperfections in the programs or manual. Our policy is one of continuous improvement and we reserve the right to change any part of Mini Office II.*

# Mini Office II — Word Processor

## INTRODUCTION

AFTER selecting the Word Processor you will be presented with the options shown below. These will allow you to choose the type of activity you wish the Word Processor to perform. Many of these options have supplementary menus within them to enable more detailed selections to be made.

**EDIT TEXT:** While using the Word Processor you will spend most time within this option, since this is where you type in or modify the text. When you wish to commence work on a completely new piece of text, whether a letter, article or other document, this is the option you will select first. You may also return to EDIT TEXT after completing another activity within the Word Processor, such as setting Tabs or merging together different pieces of text.




**PRINT TEXT:** Once you have finished writing your text, this option will take you to a menu where you can decide to print, preview or change its layout. If you are not satisfied with the way it is printed you will find it is very easy to make whatever changes you require.

**SEARCH & REPLACE:** Anyone who has ever done any writing will recall the horror of finding a consistent spelling error throughout a long piece of text, such as writing McKay instead of MacKay in the minutes of a meeting. This option lets you make repeated corrections, without having to hunt for every single occurrence of the incorrect word. Alternatively you may merely wish to find every occurrence of a certain word. This is particularly useful when compiling an index. The search starts from the current cursor position within the text.

**SAVE TEXT:** This stores text on the current filing system leaving the text in memory. It is strongly recommended that you save your text every few minutes. This will ensure that if by an unfortunate circumstance you lose text from

memory – such as if there is a power cut – there will always be a relatively recent version available for recovery. At worst only a few minutes work will have been lost.

When you select the Save Text option you'll be given a choice as to how you save files: in Mini Office II format or as an Ascii file. Mini Office II is the one you'll use almost always. It simply saves text in a way that lets it be read back into Mini Office II with the LOAD TEXT option. When you reload files this way they appear exactly as you've typed them – with all your embedded commands and so on. This should suffice for most of your needs. The second option – saving it as an Ascii file – has a rather more specialist use. This saves the file, but only the actual alphanumeric characters – the letters and numbers – and not embedded commands. You would use an Ascii file for sending your text to another computer via a modem. Most communications packages, including Mini Office II, prefer straightforward Ascii files.

Whichever option you choose, if you have markers in your text you'll be asked if you want to save the marked text only. Filenames will be appended with a .txt for a Mini Office II file and .asc for an Ascii file.

**LOAD TEXT:** You use this option to load text that has been previously stored on disc or tape into your micro's memory whether it is in Mini Office II or Ascii format. You should note that to load an Ascii file – whether it originates from the Mini Office II word processor or another package – you will need to alter the filename to include the suffix .txt. For example to load an Ascii file named Document you will need to rename it Document.txt. Loading a file will overwrite any text already in memory. Before doing it you should ensure you have finished all your current work and either printed it out or used the SAVE TEXT option.

**MERGE TEXT:** Text from the current filing system is put into the computer's memory alongside the text already there, to form a single piece. This can be particularly useful when working on long documents. A series of MERGE TEXT operations, plus some deletions and insertions, can produce lengthy texts very quickly, merely by patching together previously stored material. However the total length of the text you wish to merge must not be greater than the free memory available and the text is inserted at the current cursor position.

**CLEAR TEXT:** This option should only be used when you have completely finished working on your text and have either printed it out or saved it for future use. It wipes the computer's memory clean, leaving the text space completely empty, ready for a new document. Use it with care.

**CATALOGUE:** Displays a list of the files that are present on your disc, but this option does not work with tape.

**HARDWARE OPTIONS:** This takes you to a sub-menu which allows you to select both the storage media (either disc or tape) and the printer device that you wish to use. For further information refer to the section on printers in the introduction.

**MINI OFFICE II MENU** *(disc version)*
*or*
**EXIT PROGRAM** *(tape version):* This is the only route out of the Word Processor. It is used when you have completed all your letters or documents and wish to leave the program.

*This section has been intended to give you a brief indication of the purpose of the various options available to you in the Mini Office II Word Processor. In the next section you will be given more detailed advice on how they can be used.*

## EDITING TEXT

*IMMEDIATELY after you select EDIT TEXT the top of the screen will display the following header:*

This screen header, as it is known, is shown constantly while you're editing text.

***Time*** Shows the hours, minutes and seconds that have elapsed since entering the Word Processor.

***nnnnn Words*** Shows the number of words in the text so far entered.

***nnnnn Free Characters*** Shows how much space is still available in the computer's memory for further text insertion. If EDIT TEXT is the first option chosen after entering the Word Processor this shows the maximum possible number of characters available in your computer. After LOAD TEXT, this figure will be reduced by the amount of text transferred from cassette or disc. As you type in your text you will see this value steadily decreasing. This value will also change as you scroll the screen up and down the text. This is quite normal and occurs because of the way the screen information is stored in memory.

***Insert*** Text can be entered in two ways, or modes – Insert or Overwrite. We'll go into what this means later. Suffice it to say that this part of the header shows which mode we're in. On selecting EDIT TEXT for the first time you'll be in Insert mode.

The start and end of the text are marked appropriately with START and END. Of course, if your text is of any significant length either or both of these may not be on screen at a particular time.

Once in EDIT MODE you can treat the micro as an electronic typewriter: Any letter you press will appear at the cursor, which then moves on to the column to the right (or, if necessary, onto a new line), ready for the next letter.

You can move the cursor around the screen with the aid of the cursor keys. When you now type a letter it will appear at the new position of the cursor or at the end of the line if the cursor is beyond there – not at the end of the text, or where you left off typing.

There are also several other powerful features available from the keyboard. Every one of these will be explained in detail over the next few pages. The EMBEDDED COMMANDS will however be left until PRINT TEXT is described, since this group controls the printer operations.

The majority of these features are implemented with one of the following:

- Pressing a function key.

- Pressing Control and a specified key simultaneously.
- Pressing Shift and a specified key simultaneously.
- Pressing the Commodore Logo key and a specified key simultaneously.

We'd better discuss some terminology. Function keys will be shown as ***fn*** where ***n*** is the number of that particular key, ***Logo*** is the Commodore logo key, and ***Control*** is abbreviated to ***Ctrl.*** Combinations of keys to be pressed simultaneously are joined with + and the appropriate arrows label the cursor keys.

So ***Shift+f7*** means press the Shift key and function key seven together while ***Ctrl+↓*** means press Control together with the cursor down key.

For convenience, a summary of these keys is printed at the end of this manual but we'll now take a look at the features in detail. They fall naturally into groups so that's the way we'll consider them.

**CHANGING SCREEN COLOURS:** You can change the colour combination of the edit screen as follows:

| | |
|---|---|
| ***Ctrl+1*** | Steps through the text colours. |
| ***Ctrl+2*** | Steps through the background colours. |
| ***Ctrl+3*** | Steps through the border colours. |
| ***Ctrl+4*** | Steps through the status line colours. |
| ***Ctrl+5*** | Changes the colour of the start and end markers. |
| ***Ctrl+6*** | Changes the colour in which embedded commands are displayed. |

Take care that any colours you select are not the same as the background colour or something may not show.

**MODES:** As we've mentioned, we can edit our text in either Insert or Overwrite mode. Insert mode causes the micro to automatically insert characters into the text as you type, making space for each new character by moving the characters at and after the cursor (if any) over to the right.

This is useful for entering a missing word into the middle of text: You move the cursor to the position where you want the word then type away. As you type, any following text moves over to accommodate it.

Overwrite mode is far more destructive. Except for Returns, whatever character is at the cursor gets written over or replaced by the new character. Unlike Insert mode, the text already there does not conveniently shuffle out of

the way. Once a Return is met, Overwrite mode operates in the same way as Insert would.

You are in either Insert or Overwrite mode. You alternate, or toggle, between them by pressing ***f1***, the mode you're currently in being displayed in the screen header.

**MOVING WITHIN THE TEXT:** As you type, you will need to move the cursor round the screen, in order to make the insertions, deletions and so on. When you wish to move over only a few lines or columns through the text, you can continue to use the cursor keys.

However there are ways of passing "long distances" through lengthy text by pressing Shift, Control or Logo in conjunction with other keys:

***Ctrl+*** ↓ Positions the cursor at the end of the text, no matter how long it is.

***Shift+Home*** Positions the cursor at the first line or beginning of the text. This position is sometimes called the head of the text.

***Ctrl+***→ Positions the cursor at the right hand edge – that is, the last column – of the line which the cursor is on.

***Ctrl+***← Positions the cursor at the left hand edge – or first column – of the line which the cursor is on. Note that in this instance ← is the left arrow key above Ctrl.

***Logo+Del*** Moves the cursor to the beginning of the previous word in the text.

***Logo+***→ Moves the cursor to the start of the next word in the text.

***Home*** Displays the screen of text that immediately precedes that currently being shown. This action has no effect if you are currently working on the first few lines of text.

***Logo+***↓ Shows the screenful of text immediately after that which is currently visible. This has no effect if you are currently working on the last few lines of text.

**DELETING TEXT:** Sometimes you will want to erase, or delete, characters, words or even whole lines from your text. The following should prove useful:

***Del*** Deletes the character to the left of the cursor.

***Ctrl+A*** Deletes the character directly at the cursor.

***Ctrl+f5*** Deletes from the cursor to the end of the line the cursor is on.

***Ctrl+f3*** Deletes the word at the cursor, removing the gaps this would produce in the text. If the cursor is on a carriage return the command is ignored.

**REORGANISING TEXT:** The following features will assist you in carrying out major re-structuring. They enable whole sections, or blocks of text to be re-organised:

***f3*** Places a block symbol or marker (■) into the text. Before you can begin to manipulate a block, it has to be defined or marked by surrounding it with two block markers.

***Shift+f3*** Inserts an exact copy of the marked block of text starting at the line immediately above the one on which the cursor is positioned. The only caution needed is to ensure that the passage to be copied is not too large to fit in the free memory.

***Shift+f5*** Transfers or moves the marked block inserting it where the cursor is positioned.

***Shift+f7*** Deletes the marked block.

***Logo+f5*** Removes the block markers.

***Logo+f1*** Counts the number of words in the marked block and displays the result in the status window.

***Logo+f3*** Finds the next marker after the cursor and moves to it.

**ADDITIONAL FEATURES:** These either make life easier when spending lengthy periods at the micro, provide information or further develop the layout of the text:

***Ctrl+H*** Causes typed spaces to be displayed on the screen as a '.' and carriage returns as '↵'. Pressing Ctrl+H again returns them to normal.

***Ctrl+I*** Places the tab character into the text. When previewing text or printing it out this character is converted into the appropriate

number of spaces so that the following text appears at the column of the next tab setting.

***Ctrl+K*** Toggles the keyboard click so that you can choose between having a click as each key is pressed or silence.

***Ctrl+L*** Converts the character under the cursor to lower case, then moves the cursor one column to the right.

***Ctrl+S*** Converts the character beneath the cursor from lower to upper case, or vice versa, then moves the cursor one column to the right.

***Ctrl+U*** Converts the character under the cursor to upper case, then moves the cursor one column to the right.

***Ctrl+Space*** Places a hard space into the text. Inserting this character between words will result in the words being tied together and so preventing them being split over two lines. The hard spaces will appear as a normal space during printing.

***Ctrl+@*** Places a page number character **P** into the text. During printing each time the character is encountered it will be replaced by the current page number.

***Shift+f1*** Displays the typing speed in words per minute on the status line.

***Ctrl+f1*** Followed by a character, moves the cursor to the next occurrence of that character in the text. Note that you cannot search for block markers, embedded command markers, hard spaces or the page number character.

***Shift+Del*** Inserts a space character at the current cursor position, keeping the cursor on the space.

***f5*** Inserts the start embedded command marker. (See later.)

***f7*** Inserts the end embedded command marker. (See later.)

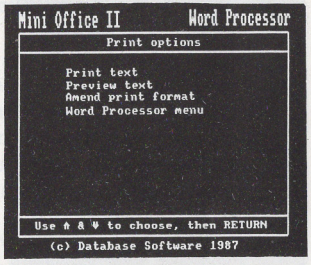
***Stop*** Pressing this key when in Edit Text will return you to the Word Processor menu. The text you've entered won't be lost. You can return to it by choosing EDIT TEXT once more.

## PRINTING TEXT

*ONCE the text has been prepared you will want to print it out. Selecting PRINT*

*TEXT from the Word Processor menu will present you with a menu which will give you the following options:*

**PRINT TEXT:** This sends the text to the printer while retaining it in memory. You will be asked how many copies you require. Press Return and the computer will assume you only require one copy. If you want more than one enter the number you require. If a block of text is marked, before printing you will be given the option to print marked text only. After making your choice, or if you have no marked text, printing will commence.




**PREVIEW TEXT:** Prints the text to the screen only, obeying most of the format commands. As with PRINT TEXT you can choose to view only a marked section. To pause press any key other than Stop and press it again to continue. Pressing Stop at any time returns you to the Print options menu.

**AMEND PRINT FORMAT:** Before you start printing out the text you may need to change some of the instructions you have given the computer, such as the number of lines on a page, the positioning of the titles, the numbering of the pages and so on. This option allows you to examine and change these by using the cursor keys to work through this three-page menu until you find the one you wish to alter. To make a change you either key in the relevant number or press Return in order to alternate, or toggle, between YES and NO. If you are using single sheet stationery, set the INSERT PAPER message to ON at the Print format menu. Between sheets, printing will stop, waiting for you to press Return after you have inserted more paper.

*These print formats are presented in a sequence of three pages:*

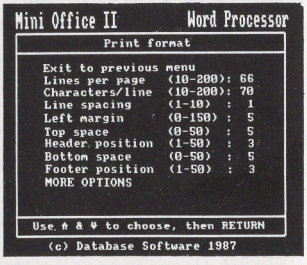
- The first page of options allows you to determine the general layout of the printed document. In every case the value shown in the last column is the one that will be obeyed by your printer. What you see when you first look at this screen are the default values – the ones that will be used if you do not change

anything. The numbers in brackets show the possible range.

***Lines per page:*** Shows the number of actual text lines that will be printed on each page. It does not include the number of blank lines that will be left at the top and bottom of each page. It can be any figure between ***10*** and ***200***.

***Characters/line:*** Shows the maximum number of characters – including spaces between words – that will be printed on a line. Note that while you may request a number greater than 80 you must not use one that is wider than your printer can handle, otherwise the end of each line will be placed on the following line of the document. It can be any figure between ***10*** and ***200***.

***Line spacing:*** Shows the number of line feeds that will be issued from the computer to the printer at the end of each line. The effect of a line feed is to start printing on the line below. So for double spacing simply change 1 to 2. You can choose any figure between ***1*** and ***10***.


Mini Office II
Word Processor
Print format
Exit to previous menu
Lines per page (10-200): 66
Characters/line (10-200): 70
Line spacing (1-10) : 1
Left margin (0-150) : 5
Top space (0-50) : 5
Header position (1-50) : 3
Bottom space (0-50) : 5
Footer position (1-50) : 3
MORE OPTIONS
Use ↑ & ↓ to choose, then RETURN
(c) Database Software 1987

***Left margin:*** Shows the number spaces in from the left hand edge of the paper you wish the printing to start – useful, for instance, if you intend to punch holes in the document for placing in a ring binder. It can be any figure between ***1*** and ***150***.

***Top space:*** Shows the number of blank lines that will be left between the first line of text and the top of the sheet of paper – or its perforations if it is fan-fold paper. It can be any figure between ***0*** and ***50***.

***Header position:*** Shows the line number from the top of the page on which the text heading will appear. It can be any figure between ***1*** and ***50***.

***Bottom space:*** Shows the number of blank lines to be left between the last line of the text and the bottom of the sheet of paper. It can be any figure between ***0*** and ***50***.

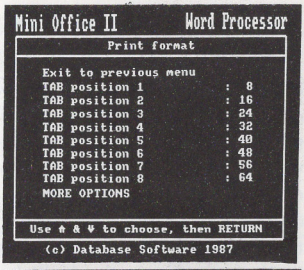
***Footer position:*** Shows the line number within the bottom space on which the page number will appear. It can be any figure between ***1*** and ***50***.

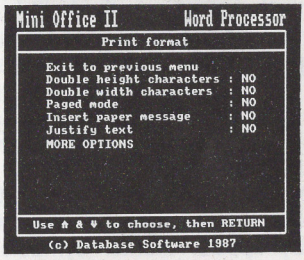
***More options:*** Takes you to the next page of the Print format menu.

- The second page of options defines the Tab settings. There are eight in all.

You can change them to any figure you like providing those you choose increase in value as you progress from position 1 to 8.

- The third, and final page of options allows you to further tailor the printed document to your requirements. Some of the instructions that follow may not work on certain printers. Your printer manual should tell you which are possible.


Mini Office II
Word Processor
Print format
Exit to previous menu
TAB position 1 : 8
TAB position 2 : 16
TAB position 3 : 24
TAB position 4 : 32
TAB position 5 : 40
TAB position 6 : 48
TAB position 7 : 56
TAB position 8 : 64
MORE OPTIONS
Use ↑ & ↓ to choose, then RETURN
(c) Database Software 1987


Mini Office II
Word Processor
Print format
Exit to previous menu
Double height characters : NO
Double width characters : NO
Paged mode : NO
Insert paper message : NO
Justify text : NO
MORE OPTIONS
Use ↑ & ↓ to choose, then RETURN
(c) Database Software 1987

***Double height characters:*** Only works on Epson compatible printers. Remember to adjust the number of lines per page, otherwise your printed text will probably extend across the perforations on the paper.

***Double width characters:*** Only works on Epson compatible printers. Remember to adjust the number of characters per line otherwise your lines of text will probably extend onto a second print line.

***Paged mode:*** Causes the printout to be formatted into pages of the length defined in the menu or by embedded commands, with top and bottom spaces, headers and footings also as defined.

***Insert Paper messages:*** When using single sheet stationery, toggling YES will instruct your computer to display an INSERT PAPER message on the screen and stop the printer at the end of each page.

***Justify text:*** This instructs the formatter to justify the printed text along both the left-hand and right-hand edges of the paper. Choosing NO will give the text a ragged right edge, while YES will give an appearance similar to a page of this manual.

**WORD PROCESSOR MENU:** This takes you back to the Word Processor menu. You use this when you have finished printing, or as a "get-out" if the wrong selection had been made in the previous menu.

## EPSON COMPATIBLE PRINTERS

The Epson standard is about the nearest the computer industry has come to devising a common standard for printers. If your printer is an Epson or Epson compatible then all the functions listed in the last section, as well as the embedded commands that follow, should function satisfactorily. If you have a different printer you should still be able to perform most functions by using the embedded commands or by sending the correct printer codes directly using the **CC** embedded command. During the printing operation, the text you have produced, together with the instructions given by the Print format or by embedded commands are sent to the printer via the built-in formatter. While printing is under way, if you notice that for any reason the format is not as you intended you can press Stop and the printing will stop, returning you to the Print text menu.

## EMBEDDED COMMANDS

EMBEDDED Commands are instructions to the printer that you type in along with your ordinary text in order, for instance, to change to italics. So that the Word Processor does not confuse these instructions with the text itself they are enclosed by special marker symbols which highlight the embedded commands in a contrasting colour. These embedded commands won't appear in the final printing – but they will have a marked effect on it.

Pressing ***f5*** at the cursor position inserts the Start marker. All text from this position until the end of the line on which the cursor is located will be highlighted. Pressing ***f7*** inserts the End marker at the cursor position. Everything that appears on the screen after this will revert to its normal colour. An embedded command can also be terminated by another Start marker ***(f5)*** or a Return.

All embedded commands consist of two-letter codes, which may be followed by a number ***(n)*** to indicate their value. Where a default value exists, this is the number that will be shown.

- *In the following descriptions of embedded commands:*

  *MO = A Menu Option also exists for this function.*
  *PM = Page Mode. Only operates when Paging has been enabled.*

**LINE COMMANDS:** These determine the positioning of the characters on the line, such as how many to a line, the setting of margins, indentation and so on. If a value is needed by a command and this is omitted, then the value is taken to be one. For example **LM** will set the left margin to position one.

**LM*n*** Sets the position of the **L**eft **M**argin. It can be any figure between ***0*** and ***150.*** *MO*

**DT*n,n . . . n*** **D**efines up to 8 **T**ab positions, with ***n*** defining each position along the line. The default settings are ***8, 16, 24, 32, 40, 48, 56,*** and ***64.*** When entering text you use this function by pressing Ctrl+I. *MO*

**IN*n*** **IN**dents all the lines that follow by ***n*** spaces. The value should be less than the number of characters on the line.

**TI*n*** Indicates a **T**emporary **I**ndent. The following line only is to be indented by ***n*** spaces. The range is the same as for **IN*n.***

**CI** **C**ancels **I**ndentation set by **IN*n,* TI*n*** or **IR*n.***

**CE*n*** Forces the next ***n*** lines of text to be printed in the **CE**ntre of the line.

**RR** Gives a **R**agged **R**ight margin – the normal typewriter style – where the text is justified to the left-hand margin only. This is the normal setting and cancels the command **FJ.** *MO*

**FJ** **F**ully **J**ustifies the text. Spaces are inserted between words where necessary to align both the left and right hand margins. It overrides **RR.** *MO*

**IR*n*** **I**ndents the next ***n*** lines so they align along the **R**ight hand margin. This is the equivalent of a right-hand justification of the text over the following ***n*** lines.

**PAPER HANDLING COMMANDS:** These give the formatter instructions on matters such as length, width, line spacing and so on. They are particularly useful

when instructions that have been set in the menu have to be temporarily overridden for a short portion of text.

**LL*n*** Defines the **L**ine **L**ength – the maximum number of characters allowed on a line. It can be any figure between ***10*** and ***200.*** *MO*

**BP** Stands for **B**egin **P**age. It instructs the computer that printing should start on a new page of the document. Also called "forcing a new page". *PM*

**CP*n*** Similar to **BP,** it tells the computer to **C**ommence a new **P**age only if fewer than ***n*** lines of text remain. *PM*

**SP*n*** Forces the skipping or **SP**acing of ***n*** blank lines on the printer. The maximum number of blank lines is ***200*** but skipping is not allowed to extend beyond a defined boundary of the page.

**LS*n*** Stands for **L**ine **S**pacing. Tells the printer how many spaces to leave between the lines. Can be any figure between ***1*** and ***10.*** *MO*

**SS** Sets **S**ingle line **S**pacing – the equivalent of **LS*1.***

**PL*n*** Sets the **P**age **L**ength. Can be any figure between ***10*** and ***200.*** The default of 66 assumes standard sized stationery. *PM* *MO*

**FONT SELECTION COMMANDS:** These allow you control over the font or character set to be used for printing. You will see no effect when you preview your text.

**CC*n,n,. . .,n*** Sends **C**ontrol **C**odes to the printer. For further details refer to the section on printer control codes in the introduction.

**CS*n,n*** Selects the **C**haracter **S**ize that will be printed on Epson-compatible printers. ***n*** can be either ***0*** for single or ***1*** for double size. The first figure defines the height, the

second the width. *MO*

**DP*n*** This **D**efines the **P**ound sign for the printer. In other words it tells the computer which character to send to the printer when it meets a £ sign on the screen. Some non-standard printers don't interpret character number 92 – which is this program's default number – as £. So you have to inform the computer by using **DP** followed by the printer's own value for £.

**PAGING COMMANDS:** These govern the layout of each page, including instructions like headings and page numbering.

**EP** **E**nable **P**age informs the formatter that the text that follows is to incorporate, as requested, top and bottom spaces, headers, footers and page numbers. The commands given the *PM* indication only work after an **EP**. *MO*

**PO** Switches **P**age mode **O**ff – the opposite of **EP**. *MO*

**TS*n*** Sets the **T**op **S**pace – defines the number of blank lines to be left at the top of the page before the first printed line. It can be any figure between ***0*** and ***50.*** This area may contain a header. *PM* *MO*

**BS*n*** Sets the **B**ottom **S**pace – defines the number of blank lines to be left at the foot of the page after the last printed line. It can be any figure between ***0*** and ***50.*** This area may contain a footer. *PM* *MO*

**DH** **D**efines the **H**eader, which will go at the top of every page and will consist of all characters keyed in between the command and the next Return. *PM*

**DF** **D**efines the **F**ooter, which will go at the foot of every page and will consist of all characters keyed in between the command and the next Return. *PM*

**HP*n*** Sets the **H**eader **P**osition – the number of the line within the top space on which the header will be placed. If the

value is outside the range of the top space the header will not be printed. *PM MO*

**FP*n*** Sets the **F**ooter **P**osition – the number of the line within the bottom space on which the footer will be located. If the value is outside the range of the bottom space the footer will not be printed. *PM MO*

**PN*n*** Sets the current **P**age **N**umber to the figure ***n.*** It can be any figure between ***0*** and ***32767.*** The page number is printed out each time the page number character **P** is encountered in the text.

To give an example of how some of these embedded commands are used, a typical page format could be as follows:

**EP PL60 TS2 BS2 PN0 DM CC27,71**
**DH"Chapter One"**

**OTHER FORMATTING COMMANDS:** These permit further "fine tuning" of the document's final appearance and generally make life easier while printing is taking place.

**EM** **E**nables **M**essage so that the printer will stop at the end of each page and put a message on the screen to warn you to insert another sheet of paper. Press any key other than Stop to continue printing. *PM MO*

**DM** **D**isables the **M**essage set by **EM.** This is the default. *PM MO*

**GF*"aaaa"*** **G**ets the **F**ile named ***aaaa***. The complete file will be printed and all the embedded commands it contains will be handled as normal. When that file has been output printing returns to the text in the computer's memory. This is useful in the production of extremely long documents, such as complete books. You can create a master text which is little more than a series of **GF** commands. When this passes through the formatter a lengthy stream of

pre-created text files will be called and printed, with page numbering running in sequence throughout, irrespective of the number of pages this eventually produces. **GF** will not work with a file already containing a **GF** command.

**GD*"aaaa"nn*** **G**ets a file from the **D**atabase module of Mini Office II ready for use, enabling its records to be used in the Word Processor. In computer terms, the file is "open". When getting multiple copies each successive "issue" gets its **FL*n*** information from the next record of that file. Using tape, a **GD** command cannot be used at the same time as a **GF** command. The **nn** is optional and if included gives the number of the record that the program is to start producing copies from. If omitted, data is read from the first record in the file.

**FL*n*** When printing out this inserts in the text the contents of **F**ie**L**d ***n*** from the current record of a Database file previously opened with **GD**.

**RD** **R**esets the formatter to the **D**efault values. Use this function with extreme caution since all headers, footers, and so on, will be lost.

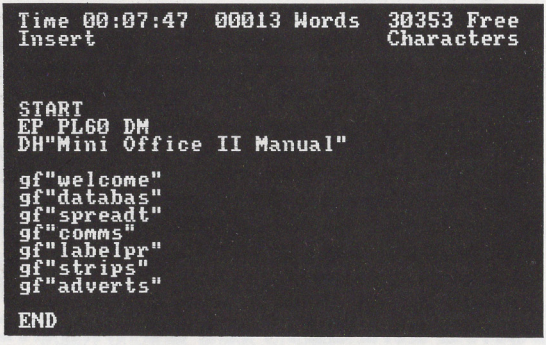
## USING THE GET FILE COMMAND

SOMETIMES you may wish to create a document that is longer than the available memory. Obviously, you can spread it over several files but printing would involve a lot of file loading and any embedded formatting commands would not be passed between files. The **GF** command solves this problem.

If you have two files, *file1* and *file2,* then all you have to do is end the first file with the command **GF"file2".** When this command is encountered during printing or previewing, *file2* will be treated as if it were part of *file1.* Any embedded commands issued remain in force ensuring that page breaks, numbering and so on are correct.

If you want to link more than two files, you must note that you cannot put a **GF** command in a file that is called by a **GF** command. (Tape users should also note

that **GF** and **GD** cannot be used at the same time.) In practice, this means that all **GF** commands will appear in the first file. If you are preparing a long document, such as a manual, the first file may contain only embedded commands with no actual text. An example of such a file is shown, and the result of printing this file would be that a manual would be printed out with the parameters as defined in this first file, and each file would follow from the last. Multiple copies are automatically handled if you request them.




## MAIL MERGING

MAIL merging is the general name given to the technique of using information from a database to personalise repeated printings of a word processor file. It's used most often to include individual names and addresses in a standard letter, hence the name. You're merging information from a database into your mail.

To use database files from the Word Processor, you need to use two embeddded commands – **GD** and **FL**. **GD** stands for **G**et **D**atabase and is followed by the name of the database file that you wish to use. **FL** is an abbreviaton of **F**ie**L**d and is followed by the number of the field whose contents you want printing at that point.

The terms field and record are explained in the Database instructions.

So, to do a mail merge, you use **GD** once at the start of the text – to tell the micro which file you want to get information from – and **FL** several times throughout the text to get individual items of data. You can do a mail merge from any available filing system. There will be pauses, longer on tape, as the database file is accessed. If you want to start printing part way through a database file, **GD** can be followed by the number of the record you want to start with, the embedded command taking the form **GD "filename" nn**.

You then ask for several copies of the letter. As the first is printed, the first record of the database specified by the **GD** command is used. **FL1** will print the first field of the first record, **FL2** the second field and so on. When the letter has printed, provided you've remembered to ask for more than one copy of it, a second will be printed. This time the **FL** commands will print the appropriate information from the second record.

The best way to learn about the mail merge feature is to try it. First, you must create a file using the Database. The following instructions assume that you have read the Database instructions and created the example file MEMBERS described.

Let's start by printing a list of the surnames and initials. Just enter the Edit mode of the Word Processor and type the following (ending with Return):

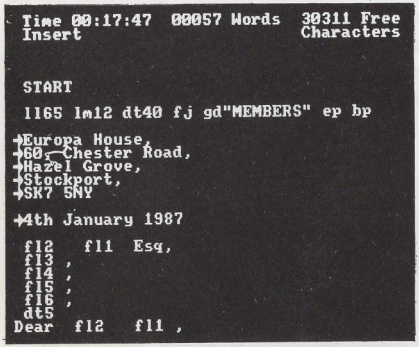
```
f5 GD"MEMBERS" f5 FL1 f5 FL2 f7
```

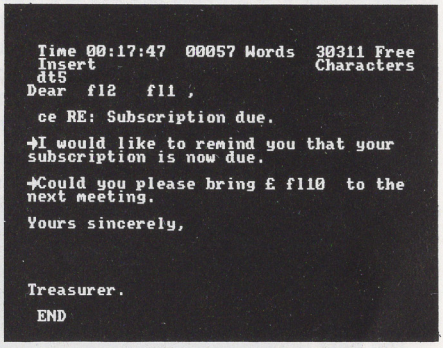
Press Stop to return to the Word Processor menu. Make sure you're now using the tape or disc containing the file of names, then select PRINT TEXT.

This takes you to the Print Options menu. Press Return to select PRINT TEXT. You will then be asked how many copies you require. Suppose you have 30 names in your list. Answer 30 to this question to print all the records. Printing will stop when the number requested is reached, or the database file is exhausted. If you are unsure how many records are in your file and want them all printing, just enter any large number such as 5000.

Now that you have discovered how easy it is to print a list of names from Database files using the Word Processor, going on to printing letters to all the

people in your file is a very small step.





Time 00:17:47 00057 Words 30311 Free
Insert Characters
dt5
Dear f12 f11 ,
ce RE: Subscription due.
→I would like to remind you that your subscription is now due.
→Could you please bring £ f110 to the next meeting.
Yours sincerely,
Treasurer.
END

Type in the letter as shown on the two accompanying screens above. Remember that **l165** and the like are embedded commands which we are using to produce a tidy letter. To get these you have to press ***f5*** before the command and ***f7*** after. It will appear highlighted on your screen. Note that the → symbol represents the Tab character.

Once you have typed in your letter, save it, and preview it to check that the layout is correct. You should note that the Database file is only read during printing, so as you preview you will see the embedded commands and not their outcome. You are now ready to print out several copies by following the same steps as you did to print out the list of names.

Don't let the fact that this feature of the Word Processor is called mail merge fool you into thinking that just because you have no letters to send you can't use it. It is a far more powerful printout option for the Database than the in-built one, allowing neat printouts even on pre-printed forms such as invoices. Teachers can use it to produce personalised worksheets for their pupils and hotels can use it to print out several different standard menus. The various print size options of Mini Office II are also useful for these applications.

# INTRODUCTION

THE Mini Office II Database is designed to create and manage databases, which are simply collections of information (data) about a subject. Examples are mailing lists, inventories and library catalogues.

Cards in a box-file constitute a simple database. They are often arranged in some kind of order – for instance, cards containing names and addresses might be arranged alphabetically by surname.

A database *file* is the equivalent of the box-file holding the cards, and it has a name – whatever you want to call it, like MEMBERS or PRODUCTS.

Each "card" in the file is called a *record*, and each record is further divided into *fields*. A field is a slot reserved in the record for a particular item of information, just as it might be on a card. For example, the first line of each card might be reserved for a surname – the Surname field.

In the Database you can have up to twenty fields, and they are numbered to indicate their position in the record. So the Surname field might be field 1.

Fields also have a *title* (the title of the Surname field could be SURNAME, NAME, or whatever) and a *length*. The length is the maximum number of characters you think might be written into the field, and it sets aside a certain amount of the computer's memory.

Finally, fields have a *type*, which tells the Database how the field is to be used:

**Alpha** fields are suitable for names, addresses, telephone numbers, product descriptions and so forth. They can contain any of the alphabetic characters (A to Z in upper or lower case), spaces and punctuation marks. They can also contain the numbers 0 to 9, but alpha fields cannot be used for calculations.

**Decimal** fields contain only numbers and a decimal point. Up to two decimal places are allowed. Decimal fields can be used for calculations, and are useful for pounds and pence, dollars and cents, and so on.

**Integer** fields contain whole numbers with no decimal places, and can be used for calculations. So NUMBER OF PRODUCTS would be a suitable integer field.

Because they can be used for calculations, decimal and integer fields are known as *numeric* fields.

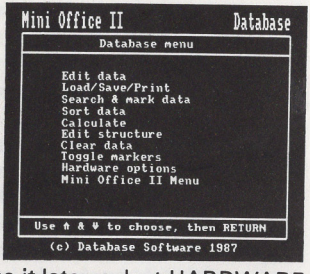
**Date** fields contain six numbers – two for the day, two for the month, and two for the year, in that order, separated by a / sign. So 6th December 1987 would be 06/12/86. A convenient way of referring to this format is DD/MM/YY (Day, Month, Year).

**Form** fields are a special type of field. They allow two numeric (decimal or integer) fields to be linked by a formula. For example, **12+15** in a form field will make it display the total value of the contents of fields 12 and 15. (Form fields are discussed in more detail later.)

Designing a record gives the file its *structure*, and the process involves some planning. Once you have put information into a file, you will not be able to alter its basic structure.

You may think this makes a database less flexible than real cards in a box, but once the structure has been set up satisfactorily, electronic wizardry takes over. An ordinary telephone directory is supremely effective if you know the name of the person whose phone number you want to find. But try searching for a name if you only know the phone number! A database will handle things like that with ease.

## GETTING STARTED




THE best way to get a feel for the Database is to work your way step by step through a simple example.

First a note about terminology: The word **select** throughout the Database documentation means select with the cursor keys and press Return to confirm your choice.

To start, load Mini Office II's DATABASE.

If you have a printer attached and may want to use it later, select HARDWARE OPTIONS and press Return to choose PRINTER. Press Stop to go back to the main

Database menu. You can use Stop at any time to move back through the Database menus.

Put a blank formatted disc in the disc drive, or a tape in the cassette recorder. This will be used for storing your file.

Creating and using a Database file is a three-step process:

- First, you define the structure.
- Next you enter data.
- Then you can retrieve and manipulate the data in a variety of ways.

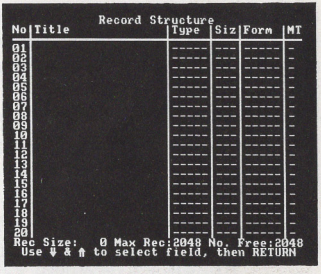
Let's look at each of these stages in detail...

## DEFINING THE FILE STRUCTURE

IT IS extremely important to plan out in advance the layout of your records. When doing this yourself there is no substitute for old-fashioned pen and paper. In this step-by-step guide, however, it will be done for you.

EDIT STRUCTURE on the main menu means start a new database or amend the structure of an existing one (but only by adding more fields, or giving them new titles). It is the first step in creating a Database file. Select it now.

The screen displays a template headed **Record Structure** with various columns and some other information. The far-left column shows the field numbers. Use the cursor keys to move between fields.




Select the first field and a new flashing cursor will appear in the **Title** column. The message on the last line of the screen will read:

**Enter field title**

Type in the word SURNAME (in upper or lower case or a mixture of the two) and press Return. If you make a mistake, use the left and right cursor keys and the Delete key for editing.

Once you have pressed Return the heading of the **Type** column is highlighted. Use the cursor keys and watch the field type change from ----- (undefined) through the various types available. Select field 1 as **Alpha.**

The cursor now moves to the **Size** column. If you simply press Return, the length

of the field will be 10 characters, but you can enter any length up to a maximum of 60. Fifteen characters is a suitable length for a surname, so enter 15 (make sure that the keyboard Shift Lock is off). If you make a mistake, edit it as before.

Next press Return. The **MT** column is now highlighted, with a **Y** (for **Yes**). Note that the **Form** column has been skipped because form was not selected as the field type. **MT** stands for empty (say MT aloud). Pressing Return leaves the **Y** unchanged, which means you can leave the field empty when putting information into the database. If you change it to **N** for **No** you will then be reminded that it requires some data.

In this case press **N** for the Surname field – it makes no sense to have a record for a member with no name. The highlight cursor has now moved to 02. If you are not happy with field 1, you can re-select it. (Remember, select means choose an option via the cursor keys and Return.)

Look at the last-but-one line of the screen. This shows the record size so far, the maximum number of records that can be held in the computer's memory (this figure will decrease as you add more fields) and the number of records free (this figure will remain the same as the maximum number of records until data has been put into the records).

Field 2 will be for the initials associated with the surname – another alpha field. Make its title INITIALS, its type alpha with a length of 3 and this time press **Y** (or Return) for MT. For the sake of simplicity, all the other fields can have a **Y** in the MT column too.

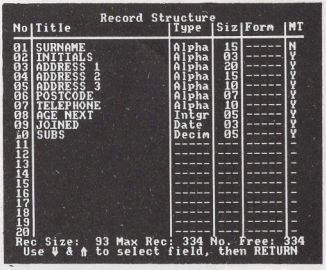
Define field 3 as ADDRESS 1 (the first line of the address), field 4 as ADDRESS 2, and field 5 as ADDRESS 3. All are alpha fields with lengths of 20, 15 and 10 respectively.

Field 6 is POSTCODE with a length of 7; and field 7 is TELEPHONE, with a length of 10. Again, both are alpha fields. Field 8 will be "Age Next Birthday". Call it AGE NEXT for short – although field titles can be up to eighteen characters long only the first ten will be shown on the screen when you display a record.

AGE NEXT will be an integer field, so select **Intgr**. The length will automatically be set to 5, but you can actually use up to nine digits when you enter data. The 5 refers to the space allocated to store the number in the computer's memory. Note: You can't use an integer field to enter telephone numbers because any leading

zeros will be lost. Use an alpha field as above.

Field 9 will be "Date Joined". Call it JOINED and select **Date** as the type. It will automatically be set to a length of 3. Field 10 will be the "Subscription" field. Call it SUBS and select **Decim** (for Decimal) as the type. It will be set to a length of 5, but again the limit is not five digits – a decimal field can hold up to a seven-figure number plus two decimal places. This completes the definition of the file structure.


Record Structure
No Title Type Siz Form MI
01 SURNAME Alpha 15 ----- N
02 INITIALS Alpha 03 ----- Y
03 ADDRESS 1 Alpha 20 ----- Y
04 ADDRESS 2 Alpha 15 ----- Y
05 ADDRESS 3 Alpha 10 ----- Y
06 POSTCODE Alpha 07 ----- Y
07 TELEPHONE Alpha 10 ----- Y
08 AGE NEXT Intgr 05 ----- Y
09 JOINED Date 03 ----- Y
10 SUBS Decim 05 ----- Y
11 ----- --- ----- -
12 ----- --- ----- -
13 ----- --- ----- -
14 ----- --- ----- -
15 ----- --- ----- -
16 ----- --- ----- -
17 ----- --- ----- -
18 ----- --- ----- -
19 ----- --- ----- -
20 ----- --- ----- -
Rec Size: 93 Max Rec: 334 No. Free: 334
Use ⇓ & ⇑ to select field, then RETURN

If you have been experimenting a little on your own, you may have some unwanted fields. The only way to get rid of them is to start the EDIT STRUCTURE procedure from scratch, having first cleared the memory. Press Stop to return to the main menu, select CLEAR DATA, then clear whole database to wipe the entire database. Answer **Y** to the *Are you sure?* message – if you are sure!

(If you are using a tape you may want to skip the next procedure which can be time consuming. *In that case, do not turn off the machine as instructed later.*)

Save the file by pressing Stop to return to the main menu, selecting LOAD/SAVE/PRINT and then SAVE ALL RECORDS. You will be asked for a filename. Type MEMBERS then Return. The file will be saved and you'll return to the previous menu. If you are using disc, selecting CATALOGUE allows you to check that the file has been saved.

If you wish, you can stop at this point, turn off the machine, and re-load MEMBERS later. Alternatively, you can enter data right away.

## ENTERING DATA

IF YOU have turned the machine off since saving the structure, select LOAD FILE on the LOAD/SAVE/PRINT menu and enter MEMBERS followed by Return.

Rejoin the main menu via Stop and select EDIT DATA. The top line of the new screen will show:

```
Used:    0 Free: 334 Size:  93 Rec:----
```

**Used** is the number of records used so far, **Free** the number unused. **Size** indicates the length of each record, that is to say the total of all the field lengths plus a small overhead. **Rec** will later show the currently displayed record number.

Below the top line, the screen is divided into two, with the field titles on the left, and space for entering data on the right (at present showing **No data records yet defined** - that is, none entered).

At the bottom of the screen are two lines of command prompts. The first command to use is **N**ew – create a new record. Press **N** now. Opposite the last three fields, which are non-alpha, a series of 0s will appear.

The first field (SURNAME) will be highlighted with a flashing cursor. Type in a surname. If you make a mistake, edit the text as before and finally press Return. For all fields, pressing Return means you have finished entry.

The Initials field will now be highlighted. Enter a couple of initials and continue entering data up to and including TELEPHONE.

AGE NEXT is an integer field. Enter a number, editing in the usual way if you make a mistake. Try entering a letter instead of a number – it will not be accepted.

Next is JOINED. Enter a date as DD/MM/YY (no need to type in the / signs). Only valid dates will be accepted – try entering a nonsensical one.

In the final field, SUBS, enter an amount in pounds and pence separated by a dot, say 3.50. Do not use a pound sign – it will not be accepted. If no decimal point or pence are entered, 00 will appear in the decimal places.

If you want to change something in any field, select it with the cursor keys and edit the data. When you are happy with the record, press Stop and the flashing cursor will disappear. Then press **N** again for a new record, Record 2, and enter data in the same way. Complete about half a dozen records.

In our example, the maximum field length is 20 characters, but it is possible to have Alpha fields up to 60 characters long.

Since the Edit screen is only 29 characters wide when you go beyond the 29th character the Edit screen will scroll to the left to accommodate more characters.

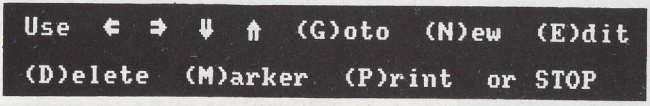
Also remember that when you defined the file structure you specified that the Surname field should not be left empty. Try leaving it empty on one of the records: When you press Stop to indicate you have finished with the record, the cursor will go back to the Surname field to remind you that you haven't.

It would now be a good idea to save the file. Press Stop when the cursor is not flashing, and at the main menu select LOAD/SAVE/PRINT then SAVE ALL RECORDS. Enter the filename MEMBERS.

That completes data entry. Again, you can stop now and re-load the file later, or carry straight on.

## HANDLING THE RECORDS

SELECT EDIT DATA on the main menu (after re-loading the file if necessary) and look at the bottom line of the screen.




You have already used Stop and **N**ew. Now for the other options.

**Moving through the file**: To browse through the records, use the left and right cursor keys. The left cursor key will display the previous record, the right cursor key the next record.

The **G**oto command allows you to jump to a record. Press **G** and enter (say) 3 followed by Return. You will go straight to Record 3.

**Amending records**: The **E**dit option allows you to modify data. Choose a record, press **E**, then use the cursor keys to move between fields and change some of the data using the same editing procedures as before. Then press Stop.

**Deleting records**: To try out this function, go to Record 1 and press **D**. After the *Are you sure?* message (answer **Y**), you will see that Record 1 has disappeared, and Record 2 has become Record 1. Try deleting Record 4 – subsequent record numbers will drop by one.

The records are deleted from memory, but not from disc or tape. If you wanted them to be deleted permanently you would have to save the file and overwrite the old one. Now retrieve the deleted records by re-loading the file MEMBERS.

**Marking records**: An important feature of the Database is that it allows you to select records and then create a sub-database out of them. This can be saved as a separate file with its own filename, or temporarily held in memory as part of the main database.

To try this, go to any record and press **M** for **M**arker. An asterisk will appear to

the right of the record number. To unmark the record, press **M** again. Mark a few records in this way. To jump between marked records, use the up and down cursor keys (if no records are marked you will go to the first or the last record in the file).

To save the marked records, go back to the main menu by pressing Stop. Select LOAD/SAVE/PRINT then SAVE MARKED RECORDS. Give the sub-database a filename and save it.

It is important to realise that you have not split the main database into two – you have *copied* the marked records to a new file, and they are still there in the main database. However they have not been saved as marked records in the sub-database. If you wanted to keep them marked you would save the main database with the asterisks attached to the records.

Now load the sub-database with the LOAD FILE option (ignoring the erase current data message). The main database will be cleared from memory, and the sub-database will take its place. Examine the records, which will now have a new set of numbers.

**Printing records**: Try printing a record displayed on the screen with the **P**rint option. The record number and its data will be sent to the printer. Pressing Stop will abandon the print command.

This option of EDIT DATA is a quick way of sending a single record to the printer. A more powerful print module is dealt with under LOAD/SAVE/PRINT, and further ways of printing from the Database will also be found in the documentation for Mail Merging and the Label Printer.

That completes the tutorial introduction to the Database. Hopefully you will have found it straightforward. However it has taught you only a part of what the Database will do. The next section describes its many other features. Work your way through them, applying them to the membership database and any other practice databases you create.

## FURTHER FEATURES

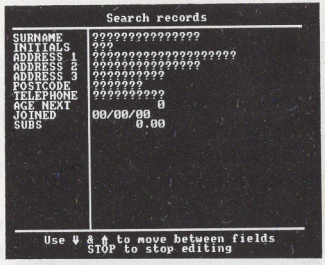
*HAVING mastered the basics of creating a Database file, we'll take a look at the further options on the main menu we haven't covered. We'll also look in more detail*

*at some we've already met.*

## SEARCH AND MARK RECORDS

THIS option allows you to search a database for particular items of data via the Search and Mark screen. When the item is found in a record, that record is automatically marked.

The screen displays a blank template similar to the edit record screen but with characters in fields represented by ? or 0.




Alpha fields are represented by **?** characters. The **?** is treated as a special character and will always match any other character meaning that, for example, an initial **?????** will always match the contents of an alpha field of length 5.

Enter the search parameters in exactly the same way as you would enter a record leaving the **?** in any position you do not want to specify. For example, if you search for **B?T??** you would find **BAT, BIT, BET** or **BUT**. You should note that as **?** in an alpha field will match any character you cannot search specifically for the **?** character itself and as the search is case dependant searching for **BOAT** would not find **boat** and vice-versa.

In a similar way, numeric and formula fields default to zeros and any date fields default to 00/00/00. This means that the initial template will match any records irrespective of the contents of their fields and carrying out a search before entering the data you want to find will mark all records.

When you have finished creating this search record, press Stop or Return on the last field and the bottom line of the screen will then display the options available – **S** to search, **R** to re-edit or Stop to return you to the main menu without carrying out the search.

When you press S to begin the search the message Searching please wait will appear. Once the search is completed the number of records which matched the search record and so were marked is displayed. Pressing Stop at any time will abort the search.

If you press S to re-edit you will be taken back into edit mode preserving anything you have already entered and allowing you to update your search record.

One final point about the SEARCH DATA option. Remember to delete the markers if necessary before carrying out another search. You can either do this individually (you may wish to keep some records marked) or by using the CLEAR ALL MARKERS option.

## SORT DATA

THIS option allows you to re-order records, which will be automatically re-numbered. The re-ordered file can then be saved if necessary under a new name. The SORT DATA screen is divided into three parts – field numbers, field titles, and Order.

The **Order** column determines the order in which the fields are sorted. This is best explained by example:

Suppose you are sorting records by a surname. You may well wish two or more identical surnames to be further sorted by first name. In that case, the Surname field would be chosen first (01 will appear in the Order column for that field), followed by the First Name field (02 will appear for that field). So ***Jones, David*** will end up before ***Jones, Elizabeth***, and both of them will end up before ***Jones, Sarah***. You can give an order number to any or all of the fields in the record, but 01 in the Order column is sufficient for the sort to begin.

At the bottom of the screen are command prompts. **Stop** will take you back to the main menu. **A**scending means sort in the order A to Z, and numbers in increasing value. **D**escending means Z to A, and numbers in decreasing value.

A sort can be carried out on any type of field. Alpha fields are sorted alphabetically. Date fields are sorted by year, month and day.

To sort data, use the cursor keys to choose a field, and then press **A** or **D**. 01 will appear in the Order column, highlighted if ascending order has been chosen. If you suspect that some records may contain identical data in the field chosen, select a second field (and a third, or more, if necessary). You can freely mix ascending and descending ordered fields.

Pressing **S** will perform the sort, and when it is complete you will be returned to

the main menu.

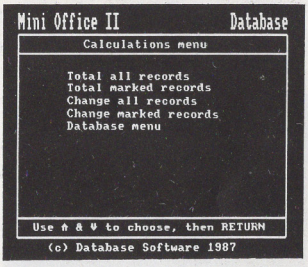
## CALCULATE

THIS option allows you to perform calculations on integer or decimal fields. An attempt to perform a calculation on a non-numeric field will generate an error message, in which case pressing any key will return you to the Calculate menu. There are two pairs of calculation types:

**TOTAL ALL RECORDS**

*or*

**TOTAL MARKED RECORDS**: These options give the total of values in a given field throughout the (marked) records. So, by selecting the field in the usual way, you could, for instance, use an Income field to find out how much money has been earned in total.




**CHANGE ALL RECORDS**

*or*

**CHANGE MARKED RECORDS**: These allow you to change the values in a field throughout the (marked) records by a constant amount. You can add, subtract, multiply or divide by a number. The number is called the **constant**.

To use these options, select the field. You will be asked to choose the operator: plus (+), minus (—), multiply (*) or divide (/). Now enter the constant. For instance, to increase amounts in a given field by 15%, multiply by 1.15.

After you have confirmed your choices the calculation will be performed, the amounts in the records will be altered – so take care! – and you will be returned to the Calculate menu.

If you enter decimals for the constant when dealing with an integer field, the new values will be rounded to the nearest whole number.

After any of the possible error messages, such as *overflow error*, pressing Stop will return you to the Calculate menu.

## EDIT STRUCTURE

WE HAVE already covered the basic ideas here. However more needs to be said

about form fields. A formula in a form field represents the relationship between two other numeric fields in one of four ways: plus, minus, multiply, and divide. Valid examples of formulae are:

**06+19**: Add (the contents of) Field 6 to (those of) Field 19
**14–13**: Subtract Field 13 from Field 14
**03*04**: Multiply Field 3 by Field 4
**10/03**: Divide Field 10 by Field 3

When editing a file structure, choose **Form** as the field type and select the formula required. Do this for the first field number, the operator, and the second field number. The field numbers will correspond only to those fields already defined.

If an invalid formula is entered, say by incorporating an alpha field, the formula alone – not the result of the calculation – will be displayed with the record. Note that formulae can't be used with date fields.

## CLEAR DATA

THIS takes you to a sub-menu with the following options:

**CLEAR ALL RECORDS:** Clears all the records in memory but preserves the actual record structure.

**CLEAR MARKED RECORDS:** Deletes any marked records from the Database file. By using the Search and Mark facility to search for LONDON in a file containing customers names and addresses, for example, you can then use this option to delete them.

**CLEAR WHOLE DATABASE:** Deletes all the records and the record structure allowing you to create a completely new database.

**CLEAR ALL MARKERS:** Unmarks all marked records. It is important to use this option in conjunction with the Search facility, particularly if you are performing a series of searches. Clear all the markers between each search unless you want to add any new marker records to previous ones.

**TOGGLE MARKERS:** Marks the records which are unmarked, and unmarks the records which are marked. It is a very useful facility if you wish to divide your database into two.

Suppose a membership database contains records of only the people living in London or Manchester, and you wish to create separate London and Manchester

sub-files. Using the search facility, first mark all London records and save the London sub-file. Now toggle the markers and save the newly marked records in a Manchester sub-file.

## HARDWARE OPTIONS

THIS takes you to a sub-menu which allows you to select both the storage media (either disc or tape) and the printer device that you wish to use. Selecting screen for the printer device will print records to the screen when using the Print Options. For further information refer to the section on printers in the introduction.

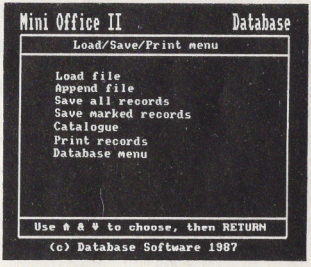
## LOAD/SAVE/PRINT

THIS takes you to a sub-menu with the following options:

**LOAD FILE:** Replaces everything in memory (which will therefore be lost, hence the warning message on the screen).

**APPEND FILE:** Allows you to add another file to the end of the one in memory. The two files will be joined together and numbered sequentially. The structure of an appended file must be identical to that of the file in memory.

If a file is too big to fit into memory, the Database will read as many records as will fit, then display the number of records loaded before giving an error message.




**SAVE ALL RECORDS:** Saves your file to tape or disc with the suffix .dbs.

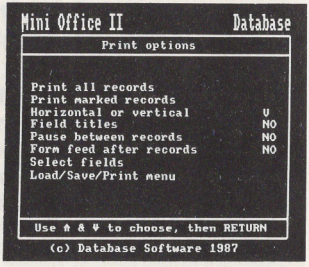
**SAVE MARKED RECORDS:** Works like Save all records, but only saves ones that are marked.

**CATALOGUE:** Displays a list of all the files that are present on your disc but this option does not work with tape.

**PRINT RECORDS:** Takes you to the following sub-menu:

**Print all records**: This option will send either all or marked records to the printer, or to the screen if this has been set under HARDWARE OPTIONS. It is selected in the usual way (cursor keys and Return).

**Print Marked Records**: As above but will only print those records that are marked.
**Horizontal or Vertical**: Use Return to toggle between **H**orizontal and **V**ertical. **H** will print the records across the page, and **V** will print them one underneath the other.
**Field Titles:** Use Return to togle between Yes and No. Yes will print the field titles before each line of data. No will print just the data.




**Pause between records: Yes** (toggled using Return) will cause the printer to wait until Return is pressed before printing the next record. If you send the output to screen, the pause will be automatic.
**Form feed after records:** This applies only to the Vertical option. A **Yes** (toggled using Return) will advance the paper to a new page after each record.
**Select fields:** This is for printing only parts of any field. Select the field and the cursor will move to the right-hand column showing the full length of the field. Enter the number of characters in the field to be printed. If you enter 0, the field will be printed as a blank field.

## Mini Office II — Spreadsheet

# INTRODUCTION

THERE are four stages involved in using the spreadsheet option of Mini Office II: Planning the layout, entering the labels and formulae, entering the data and producing the output.

Of these, planning the layout is probably the most vital aspect of using a spreadsheet. Time spent here will be time saved later. Once the spreadsheet is planned, it is comparatively easy to enter all the necessary facts and figures into the computer and even easier to alter them as circumstances change. However although changing the actual structure of the spreadsheet is possible – as we will see later – it's better to get it right first time. A little thought at the design stage saves a lot of tears later.

# PLANNING THE SPREADSHEET

YOU'LL find designing the spreadsheet is made easier if you use a squared grid or matrix on a piece of paper. It doesn't have to be identical to the finished computer-generated spreadsheet – it's more of a model which helps avoid silly mistakes, such as having columns that are too narrow for your labels. For instance, if the column is only 6 characters wide and you try to enter the label DEPRECIATION you will have problems! It's far better to come across them on paper rather than halfway through entering the spreadsheet structure into your micro.

At the risk of stating the obvious, use a pencil and make sure that you have an eraser to hand as it is virtually certain that you will make several alterations before you are satisfied with the final layout.

The size of the spreadsheet depends on the amount of data it's going to be working on. Since the matrix is two-dimensional – rows and columns, or across and down – you have to organise the data into this form. For instance, you could have the months of the year going across the spreadsheet, one column for January, one for February and so on. The rows could then be given over to prices, costs and profits or other such data. Don't forget to include gaps in the layout by leaving blank

columns and rows. And use as many labels as possible to identify the figures. This all helps to make the spreadsheet easier to understand.

A point to bear in mind is that the Mini Office II Spreadsheet carries out its calculations starting at the top left corner and finishing in the bottom right corner of the matrix, so make sure that your spreadsheet structure reflects this. For instance, totals must come after the components which make up those totals, and averages must come after the totals have been calculated.

This is simply commonsense: After all, you can't know the sum of a set of numbers until you've been given all the figures. It's the same with the spreadsheet. So, if you get weird results, check the layout and make sure that you've followed the spreadsheet's method of working.

The final step in determining the layout is to decide which list will form the horizontal (across) axis and which the vertical (up/down). If possible make the shorter list the horizontal axis, as this makes it easier to print out the spreadsheet.

Once you've got the basic table ready you can start to fill it in. First of all you will need to enter the cell references or coordinates. This could not be easier. *The spreadsheet identifies columns with letters and rows with numbers.* All you need to do is to string the letters in alphabetical order across the top of the grid, and number the rows down the side. The computer calls its columns AA, AB, AC . . . AZ then BA, BB and so on.

Each intersection of row and column defines what is known as a "cell" of the spreadsheet and is referred to by a combination of column letters and row number. For example, if column AG were given the label MARCH and row 17 were labelled RENT, then the cell which contains the figure for the MARCH RENT is identified as AG17.

The spreadsheet is made up of these cells, identified by two column letters and row number and they are filled with one of three things: Labels, data and formulae. Labels are just the names used to keep track of the figures such as MARCH and RENT. The data consists of the figures that the spreadsheet will use to do its calculations. Suppose that the March rent was £150, then the data in cell AG17 will be 150. Formulae, as will be seen in more detail later, are just ways of telling the spreadsheet what to do with the data in order to calculate a required result.

Where calculations are necessary in the layout of the spreadsheet, enter a

reference number in that cell and use it to keep track of all the formulae on another piece of paper. Suppose you want to calculate the average mark a student obtained in a series of tests and place this in cell AL12. This cell must obviously contain the total marks gained divided by the number of tests that have been taken. If the sum of all the marks is held in cell AK12 and nine tests were taken, then the formula is:

**AL12 = AK12 divided by 9**

Using the language of the spreadsheet this is written as:

**AL12=AK12/9**

When it finds this formula, the spreadsheet will look at cell AK12, take the value it finds there, divide this by nine and place the result in cell AL12.

When keeping track of the formulae in your paper model, the easiest reference numbers to use are the cell identifiers themselves. Also remember that there is no need to copy identical formulae across on to the sheet of paper. Where many cells require the same basic calculation, the spreadsheet can copy formulae for you. All you need to do is repeat a common reference number on your grid to indicate that the formula is to be used in more than one cell.

Once you're satisfied with the model, you're ready to transfer your spreadsheet from paper into the computer.

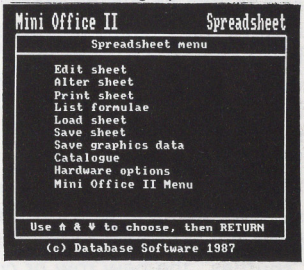
## THE SPREADSHEET MENU

*ON entry to the Spreadsheet a menu presents you with the following options:*

**EDIT SHEET**: Allows you to enter data, labels and formulae into the spreadsheet, or alter an existing spreadsheet.

**ALTER SHEET**: Allows you to make changes that affect the whole of the spreadsheet such as changing the number of columns and rows or changing the way in which the spreadsheet is displayed.

**PRINT SHEET**: Sends the spreadsheet to the printer, either in full or in part.



**LIST FORMULAE:** Provides a list of all the formulae contained in the spreadsheet.

**LOAD SHEET**: Reads a previously saved spreadsheet from the current filing system into the computer's memory.

**SAVE SHEET**: Transfers a complete or partially complete spreadsheet to the current filing system. Do this every few minutes to prevent accidental loss of data.

**SAVE GRAPHICS DATA**: Save data to the current filing system, in a form suitable for accessing by Mini Office II Graphics.

**CATALOGUE**: Displays a list of all the files that are present on your disc but this option does not work with tape.

**HARDWARE OPTIONS**: Lets you select tape or disc for data storage and allows you to set the printer type.

**MINI OFFICE II MENU** *(disc version)*

*or*

**EXIT PROGRAM** *(tape version)*: This is the only route out of Spreadsheet, returning you to the main menu of Mini Office II or, in the case of the tape version, resetting the computer.

## EDITING THE SPREADSHEET

WHEN you select EDIT SPREADSHEET from the main menu you can immediately start entering information into cells or editing their contents. One of the cells on the screen will be clearly marked with a cursor. This is the "active" cell, waiting to receive data, labels or formulae. Only one cell is active at any time, its contents being shown in the top three lines of the screen, the status area. The cursor can be moved from cell to cell by means of the cursor control keys (the ones with the arrows on them). The cell the cursor is currently in is called the active cell and is shown in the status area.

One point to bear in mind is that the screen only shows part of the spreadsheet: It's a window showing a portion of a much larger grid. At the start of a new spreadsheet it shows only the top left corner. If you move the cursor to a cell which is off the edge of the screen, there may be a very brief delay while the spreadsheet "shuffles" the new row or column into view. The column or row that disappears

isn't lost, it remains in the micro's memory even though it isn't in sight.

At any time you can enter numbers or letters into the active cell just by typing them in and pressing Return. Things are slightly more complicated when it comes to formulae. They can be entered into the cells and amended and copied by using various combinations of keys, either on their own or in conjunction with the Logo or Ctrl keys. You can also change the layout and appearance of the spreadsheet and protect cells from inadvertently having new information entered into them.

A summary of the key commands is at the back of the manual and the full list is:

***f1*** Wipes the contents of the active cell provided it is not locked.

***f2*** Deletes the entire column containing the active cell. Columns to the right of this are renamed accordingly and all the formulae are also adjusted.

***f3*** Updates the spreadsheet by calculating all formulae and displaying the results.

***f4*** Deletes a row, operating in a similar way to delete column.

***f5*** Allows formulae to be placed in the active cell. Formulae can be made up of a combination of cell references (such as AB9), figures and arithmetic operators (such as + or -). The formula is checked and transferred to the cell when Return is pressed.
For instance, if AB09 contained the formula **AB03+AB04**, when you update the spreadsheet AB09 would display the result of the calculation. Notice that it's the *result* of the formula that appears in the cell. The formula itself appears at the top of the screen as does the word Formula. Operators that can be used are:

() Brackets
\+ Add
– Subtract
* Multiply
/ Divide
↑ Raise to the power. 2↑3 is 2 to the power of 3, that is, 2*2*2=8.

**ABS(n)** Absolute value of n.
**COS(n)** Gives the cosine of n where n is measured in radians.
**EXP(n)** Gives the exponent of n.
**LOG(n)** Natural logarithm of n.
**LOGIO(n)** Logarithm of n to the base 10.
**SIN(n)** Gives the sine of n where n is measured in radians.
**SQR(n)** Returns the square root of n.
**TAN(n)** Gives the tangent of n where n is measured in radians.
**MAX [block]** Largest value found in block.
**MEAN [block]** Average value of all cells in block.
**MIN [block]** Smallest value found in block.
**SUM [block]** Total of all cells in block.

Block is a block of cells defined by its opposite corners. For example SUM[AB04:AB07] is equivalent to AB04+AB05+AB06+AB07 and MEAN[AD22:AE23] is the same as (AD22+AE22+AD23+AE23)4.

Incorrect formulae will not be accepted and will be offered for re-editing. The cursor will be placed at the position where the error was detected.

***f6*** Inserts new column of blank cells is inserted at the current cursor position. The old active column and columns to the right of it are renamed and all formulae are adjusted.

***f7*** Lets you directly edit the contents of a cell. Normal Commodore screen editing is supported on the contents window and the Stop key will abort editing and restore the cells original contents.

***f8*** Inserts a new row of blank cells at the current cursor position in a similar way to insert column.

***Ctrl+1-7*** Change screen colours.

***Ctrl+A*** Sets automatic cursor movement. On entry to the spreadsheet this function is off and the cursor remains at the active cell when you press Return. Ctrl+A selects a direction (up, down, left or right) for the cursor to move each time Return is pressed. This is useful when entering a column of figures, as the cursor will jump

to the next cell automatically as you finish an entry.

***Ctrl+B*** Locks all cells in a row to prevent accidental changes being made to important items. If the active cell is locked the word "locked" will show in the status area at the top of the screen. Cells must be unlocked before they can be edited or deleted.

***Ctrl+C*** Allows you to enter text centrally in the active cell.

***Ctrl+D*** Sets the number of decimal places (0-4) to be displayed in the current column.

***Ctrl+E*** Allows a formula to be typed in and evaluated immediately. The result is stored in the active cell as a number. The formula must be in the same form as formulae that are entered into cells using *f5*.

***Ctrl+G*** Lets you go directly to any cell on the sheet. At the prompt just enter the name of the required cell and press Return.

***Ctrl+H*** Displays help screens.

***Ctrl+I*** Takes you out of edit mode and straight to the save spreadsheet screen where you will be prompted for a file name.

***Ctrl+J*** Lets you change the justification of a current text cell between being centred or justified left or right.

***Ctrl+K*** Toggles the active cell between being locked or unlocked.

***Ctrl+L*** Allows you to enter text on the left of the active cell.

***Ctrl+M*** Unlocks all the cells in the current row.

***Ctrl+N*** Unlocks all the cells in the current column.

***Ctrl+O*** Copies a column. Copies can be made either absolutely or relatively, the difference being the way cell references are treated. A formula copied to a new position absolutely, will stay exactly the same and show the same result as the original. If the formula is copied relatively, it will change the values of all the cells in relation to the old position. For example if your formula is calculating the total of the column, an absolute copy would still show the total for the old column, but a relative copy would show the total for the new column. If you need an absolute copy then answer N to the Prompt "Relative copy (Y/N)". After answering Y

or N, you will be asked to position the cursor to the required new column. At this point you can either move to the new column using the cursor keys or enter a cell reference as in the GOTO command. When you are happy with the cursor position press Return to make the copy. Now you can either press Stop to leave copy mode or choose another column to copy. You should note that there may be a pause while the computer is copying.

***Ctrl+P*** Copies a row. This operates in a similar way to copy column.

***Ctrl+Q*** Puts the spreadsheet in scroll mode, where the spreadsheet display moves around the cursor which remains where it is. You return to manual mode by pressing any command key or by scrolling to the edge of the sheet.

***Ctrl+R*** Allows you to enter text on the right of the active cell.

***Ctrl+S*** Allows you to enter more text than will fit in the width of a cell. This enables explanations, notes or even whole sentences to be included in the spreadsheet. The additional text will automatically spread over as many cells to the right as required, overwriting any information already there. It should therefore be used with caution and preferably before other cells are set up.

***Ctrl+T*** Allows you to enter text that may be confused with other input. For example, if you want to put 50 as a label for a column, use this option to prevent it being mistaken for a number.

***Ctrl+U*** Toggles auto update on/off. When auto update is on, any change to the sheet will cause the sheet to be re-calculated.

***Ctrl+V*** Locks all cells in the current column.

***Ctrl+W*** Changes the width of the column containing the active cell. This may be in the range of 5 to 20 character positions.

***Ctrl+X*** Copies the active cell and operates in a similar way to copy column.

***Ctrl+Y*** Changes justification of the text in the column containing the active cell. You will be prompted for Left, Right or Centre.

***Ctrl+Z*** Zero's all numeric cells on the sheet. Locked cells and cells of other types are not changed.

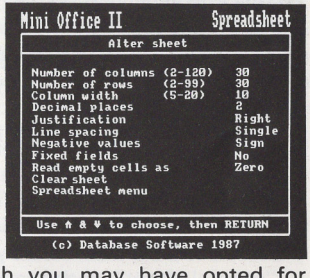
***Stop*** Escapes from EDIT SPREADSHEET and returns you to the spreadsheet menu. Everything you have entered or calculated remains in memory. It also allows you to return to edit mode from the spreadsheet menu.

## ALTERING THE DISPLAY

THE ALTER SHEET menu may be called at any time from the Spreadsheet menu. Except for CLEAR SHEET, which removes all data, it allows you to make changes to the format of the spreadsheet – the way that it is displayed on the screen – without losing any data. These alterations take effect on the whole of the spreadsheet, overriding any previous "tailoring" you may have done, so beware. You will be given the following options, chosen using the up and down cursor keys and Return:

**NUMBER OF COLUMNS**: Lets you set the number of columns on your sheet. The maximum number available will depend on the current number of rows and the limit is 4,000 cells or 120 columns. The number of columns can only be reduced when there are blank columns on the right hand edge of the spreadsheet that can be removed.

**NUMBER OF ROWS**: Lets you set the number of rows in your sheet with a limit of 4,000 cells or 99 rows.




**COLUMN WIDTH**: Allows you to define the width of the columns, between 5 and 20 characters across. Reducing the width does not lose data, although the contents of some cells may not be shown in full if they do not fit within the width you've specified.

**DECIMAL PLACES**: Selects the number of decimal places shown in each cell. This affects the display only, the full value of each figure still being used in calculations. Hence even though you may have opted for integers to be displayed, the decimal places entered are taken into account when any sums are done.

**JUSTIFICATION**: Determines the position of text within cells. Pressing Return

steps through the three possible options – Right, Left and Centre.

**LINE SPACING**: Determines whether or not a space is left between the rows of data. This is normally set to SINGLE when there is no gap between the lines. Pressing Return toggles it to DOUBLE, resulting in a blank row between each row of data.

**NEGATIVE VALUES**: Toggles between – and () giving you an option of how to display negative numbers. Round brackets are often used to represent the minus sign in financial matters.

**FIXED FIELDS**: Locks all entries placed in any cell in Column AA or in Row 1 so that they are always in view however far the spreadsheet is scrolled. This means that labels can be put in the top row and leftmost column and they will still be seen no matter what the active cell is.

**READ EMPTY CELLS AS**: Toggles between zero and empty. Any formula containing reference to an empty cell will result in an error message.

**CLEAR SHEET**: Wipes the contents of the current sheet and sets up a new one.

## PRINTING THE SPREADSHEET

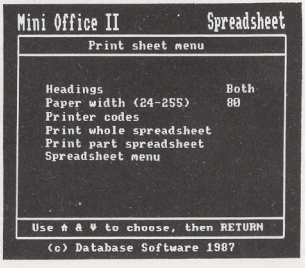
*WHEN you select PRINT SPREADSHEET you will be presented with the following options:*

**HEADINGS**: Chooses whether or not to include the row and column headings in the printout. You can choose between Both, Column, Row or None.

**PAPER WIDTH**: Sets the maximum length of line, measured in characters, sent to the printer. This is necessary as printers vary in the number of characters they can fit across a sheet of paper. The default value is 80.

**PRINTER CODES**: Allows you to send control, or "special effect", codes to the printer at the start of each printout.

**PRINT WHOLE SPREADSHEET**: Prints the entire spreadsheet. If it's too wide to fit across a



single sheet, it's printed in sections, each section containing as many columns as your printer allows.

**PRINT PART SPREADSHEET**: Lets you print out selected rows and columns from the spreadsheet. When this option is selected you will first be prompted for the required columns and the used area in columns will be presented for you to edit. So if your spreadsheet goes from column AA to Column DE and you only require columns AA, AF and all the columns BD to BH, then change the AA-DE that is displayed to AA,AF,BD-BH. Rows are selected in the same way only using the row numbers. For example: 1-8,10-12,50,55.

**SPREADSHEET MENU**: Returns you to the Spreadsheet menu.

## SAVING GRAPHICS DATA

THE SAVE GRAPHICS DATA option allows you to save data from the spreadsheet in a form that enables it to be loaded into Mini Office II Graphics. A maximum of five sets of data each containing up to 20 cells from any row or column can be saved in one file. Make a note of which columns or rows you wish to display graphically. When this option is selected you will first be asked whether the data you want to save is in rows or columns. You are then asked for the position of the titles or labels to be used and this will either be a row or column depending which you are saving. From this row/column you can select up to 20 labels by answering Y or N to the "Use label" prompt. When selection of labels is finished, you will be asked which rows or columns contain the data sets. From these, only cells corresponding to selected labels will be saved. Finally you will be prompted for a file name. If you only press Return the spreadsheet filename will be used but with a suffix of ".gra".

# Mini Office II Graphics

## INTRODUCTION

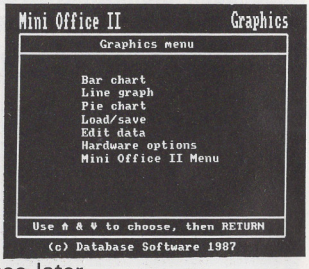
THE Graphics module of Mini Office II provides a flexible, powerful yet simple way to get your computer to display numeric data in an easy-to-understand form. Figures that would look meaningless in themselves can be illustrated and brought to life, quickly and easily.

The Graphics module can be used in two ways – by entering data directly from the keyboard or by loading Spreadsheet data that has been previously stored on tape or disc. Whichever method of entry is used, the Graphics module has to be given the figures it is to illustrate in the form of a **data set**. A data set is just a list of associated values, such as the monthly sales for the year or a person's exam marks. Each set may hold up to 20 values and the module can display up to three of these data sets at any one time.

Once the data is in memory, you can pick the screen presentation that best illustrates and contrasts the figures and then produce a permanent copy on your printer.

## MAIN MENU

ON entry to the graphics module, you'll be faced with the main menu which lists the various options. As is usual in Mini Office II, the major functions are selected by using the cursor up and down keys and pressing Return when the option you want is highlighted.




When you come to choosing the final appearance of the graph, things are slightly different. Instead of yet another menu, a group of pictures or symbols termed **icons** appears to the right of the screen. Each icon represents a different option. As with the menu, you pick the icon of your choice using the cursor keys and Return, as we'll see later.

*For the moment let's consider the options available on the main menu.*

**BAR CHART**: This displays numerical data in the form of columns of varying length, proportional to the value of the data entered. The longer the column – or bar – the greater the value of the number represented. Negative numbers are shown by a bar of the appropriate length descending below the "zero" base line.

**LINE CHART**: This is drawn by first plotting points onto a graph, the position of each point above or below the base line corresponding to the value of the number being plotted. Once all the points are in position they are joined together by straight lines.

**PIE CHART**: This is a circular representation of the data. The complete circle – the "pie" – represents the total of all the values in the data set. Each individual value in the data set is then drawn as an appropriately sized sector – or slice of the pie.

**LOAD/SAVE**: Takes you to a sub-menu where you can load and save data using the currently selected storage media.

**EDIT DATA**: Takes you to a sub-menu where you can opt to enter data directly from the keyboard or manipulate data already in memory.

**HARDWARE OPTIONS**: Takes you to a sub-menu where the storage media, printer type and colours for the graphic displays can be chosen.

**MINI OFFICE II MENU** *(disc version)*

*or*

**EXIT PROGRAM** (tape version): Returns you to the Mini Office II Main Menu except in the case of the tape version which resets the computer.

## ENTERING DATA

BEFORE you enter data it is important to know the structure of the graphics module so you can understand the way in which data is manipulated. The module can hold up to 20 sets of data numbered from 1 to 20 and each can contain 20 items of information.

When it comes to displaying this data you display three sets at once and these are lettered A, B and C. Using the Edit option you can enter any one of the 20 data sets into display set A, B or C, providing that the selection actually contains data and the set has not already been allocated to another display set.

In a normal barchart, single line graph and pie chart, display set A is always used,

so any one of the 20 data sets can be displayed by entering its number into display set A on the Edit menu.

In side by side and stacked barcharts or multiple line graphs, all three display sets (A, B and C) are used. If only two sets of data are to be compared use zero as the display set not required. For example, to compare data sets 5 and 7, put 5 into A, 7 into B and 0 into C.

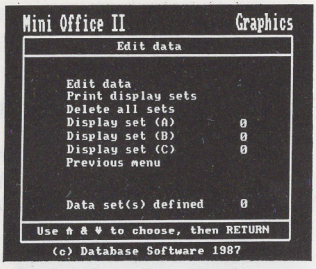
At any time you can easily look at and edit the sets of data in memory and to remind you which sets are to be displayed there is an asterisk at the top right hand corner if the set on screen is one of the selected display sets.

The first three sets of data that you enter will automatically become display sets A, B and C, but these can be changed at any time. A comment line on the Edit Menu informs you how many sets have been entered.

Armed with this information let's look at the menu options in detail. There are three ways of entering data: The EDIT DATA, LOAD FILE and APPEND FILE options.

**EDIT DATA**: Selecting this option presents you with a sub-menu which has the following options:

**Edit data**: Takes you to the edit data screen. The left hand side of the screen is used to display the fieldnames which can be up to 12 characters long. The right hand side is used to display the numeric data and the bottom two lines are used to display the available commands.




You can use ←, →, ↑, ↓, (N)ew, (E)dit, (G)oto, (P)rint, (D)elete, (T)itle or Stop where the letters in brackets indicate the key you press to select the command.

←: Displays the previous data set. If set 1 is the set currently displayed this command is ignored.

→: Displays the next data set. If this is the last set then this command is ignored.

↑ : Displays the next data set that has been selected to be a display set (A, B or C). If no following data set is a display set then the last set is displayed.

↓: Displays the previous data set that has been selected to be a display set (A, B or C). If no previous data set is a display set then the first set is displayed.

**N**: Allows you to enter a new data set. If the maximum number of sets have already been entered (20), the message 'No room' will be displayed. If you are entering (N)ew for the first time the cursor will appear in the left hand column to enable you to enter fieldnames. All successive entries to edit data will take the cursor to the right hand column ready for numeric input only.

**E**: Allows you to edit the data set currently displayed on the screen. After pressing E the position where data is going to be entered is marked by brackets and is also highlighted. Press ↓ to move to the next field and ↑ to go back a field. When entering numeric data press Return or Shift+Clr to clear the present entry and allow a fresh start to the input.

Try to ensure that the range of values you enter are not too extreme, like 12000, 17.5, –3400, 1.3, 7300, 0.75. If you enter figures as extreme as these the program will still attempt to fit everything on the screen, but several values will be indistinguishable from each other, either because the segment will be unreadably narrow, or the column will not rise above the base line.

To exit the edit mode press Stop

**G**: Allows you to go directly to any data set. In reply to the prompt 'Input data set to GOTO:' enter the set number and press Return. Pressing Stop will abort the option. If you enter a set number which does not exist it will not be accepted and will await a further entry.

**P**: Prints out the data set currently displayed to the printer device and type as selected in the hardware options.

**D**: Allows you to delete the data set currently displayed. The gap created by deleting a set is closed up and so the data set numbers of all following sets will automatically decrease by one. To abort the option press Stop or answer N to the prompt 'Are you sure'.

**T**: Allows you to enter a 12 character title to the current data set. This will be displayed at the top left of the screen and will appear on all printouts.

**PRINT DISPLAY SETS**: Prints all three display sets in the form of a table so that easy comparisons can be made between the data and the graphic representation.

**DELETE ALL SETS**: Deletes all data sets currently in memory.

**DISPLAY SET (A), (B) and (C)**: Allows you to choose which will be used as data to plot the various graphs. Initially, as data sets are entered, display set (A) will become data set 1 automatically. Likewise (B) becomes set 2 and (C) is set 3. If more than three sets of data are entered then the display sets can be chosen to be any one of these. If a set is chosen that is out of range or is already one of the other display sets then the program will ignore it and prompt for another entry.

**LOAD/SAVE**: This takes you to a sub-menu which has the following options:

**Load file**: Loads a graphics file from the currently selected storage media. All graphics files are identified by the suffix .gra and this is automatically added to the filename as the file is saved.

**Append file**: Operates in the same way as load except that it doesn't replace any data sets in memory but adds to them. The file to be appended must have exactly the same fieldnames as the file in memory otherwise the append is aborted. When trying to append a file which is too large to fit into the remaining memory a message will be displayed informing how many sets can be fitted before you are prompted to carry on.

**Save set**: Saves individual data sets to the currently selected storage media. You are first prompted to enter the data set number to be saved and then for a filename. In all saves from this module a suffix of .gra is automatically added to the filename.

**Save display sets**: Saves displayed data sets. If only two sets are defined as display then only two sets will be saved.

**Save all sets**: All data sets currently in memory will be saved.

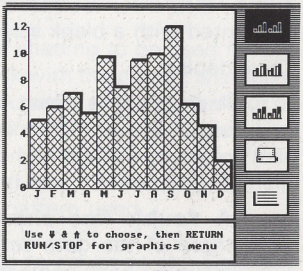
**Catalogue**: Displays a list of files that are present on your disc but this option does not work with tape.

## DISPLAYING DATA

*THERE are three ways of displaying the data: the BAR CHART, LINE GRAPH and PIE CHART options.*

**BAR CHART**: When this option is chosen, the screen goes blank except for five icons to the right and a set of instructions at the bottom. Use the up and down cursor keys to select the icon whose function you require and then press Return.

The five icons represent:




**An ordinary bar chart**. Choose this and display set (A) will be used. Next you'll be asked whether you want a 3D bar chart (or, rather, one that looks 3D). Following this you have the choice of having auto-scaling or not. If you choose auto-scaling then the micro adjusts the scale of the chart so it makes optimum use of the screen. Should you say no to the prompt then the computer asks you for the highest and lowest values to be represented. After this the bar chart is drawn and you are given the option of adding text (of which more later). Finally you can use the cursor keys to choose another icon or press Stop to go back to the main menu.

**A side-by-side bar chart**. This uses two or all three of the display sets with the columns corresponding to the same item in each data set placed side by side. The prompts follow just as in the ordinary bar chart above.

**A stacked bar chart**. This chart again uses two or three data sets, depending on your selection of the display sets. Now, however, the related values are shown stacked above one another, differences in shading marking the individual values making up the whole column. No negative values are allowed in the data sets used. The prompts are the same as the side-by-side bar chart above.

**A printer**. Choose this if you want to print out a copy of the bar chart. You'll be asked:

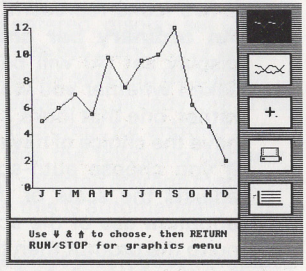
**Print Y/N?**

to which replying **Y** will result in the bar chart being sent to the printer currently selected in the hardware options.

**A grid**. After this has been selected, the grid icon is replaced by the word ON. Any bar chart created following this will be drawn against a background grid.

*When you've finished with the option, pressing Stop returns you to the Graphics menu.*

**LINE GRAPH**: Select this and again you're presented with a blank screen plus the five icons.




They depict:

**A single line chart**. Only display set (A) is used. As with the ordinary bar chart, the prompts determine how the graph is scaled and whether it has text added.

**A double line chart**. This shows two or three of the data sets on the same graph, allowing easy comparison of their values. The prompts follow as usual.

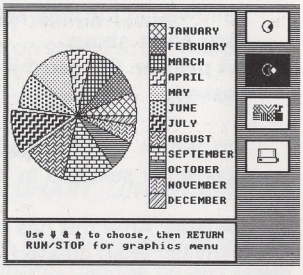
**A cumulative line chart**. Here the position of the points reflects the accumulated sum of the individual values in the data set. So if the data set comprised of the three values 3, 6, and 8, the values represented on the graph are 3, 9 (3+6), and 17 (3+6+8).

**A printer**. Choose this if you want to print out a copy of the line chart.

**A grid**. After this has been selected, the grid icon is replaced by the word ON. Any line chart created following this will be drawn against a background grid.

*When you've finished with the option, pressing Stop returns you to the Graphics menu.*

**PIE CHART**: This time you are presented with a blank screen and four icons. They depict:




**An ordinary pie chart**. With a pie chart only positive values can be used in the data set. On choosing the option, the chart is drawn and prompts whether you want to add text.

**An emphasised pie chart**. After selecting this you are then asked if you wish to emphasise all the sectors of the pie. If you answer Y, the complete chart is drawn in "exploded" form. If you answer N, you are prompted as to which particular sectors you want emphasised, being asked for a Y or N reply for each sector.

Those selected are then shown cut away, or pulled out from, the rest of the pie.

**A symbol table**. This lets you select the type of shading to be used for the different sectors of the pie, rather than being stuck with the default shadings, the ones that the computer automatically picks. A grid is drawn at the foot of the screen showing twenty different shading patterns. You use the left and right cursor keys to move a cursor along the grid and select a pattern. Press Return and the last sector to be drawn will be filled with that shading. To help keep track an asterisk, *, is placed above each pattern used.

**A printer symbol**. You choose this if you want to print out the pie chart.

*When you have finished using this option, press Stop to return to the Graphics menu.*

## TITLING GRAPHS

ONCE your chart is displayed on the screen you are given the opportunity of adding titles and labels by being asked:

**Text Y/N?**

Answering **Y** for Yes allows you to enter the text you want, which appears in the window at the bottom of the screen. You are then given the choice of underlining the text. After answering this and pressing Return, the text jumps to the bottom of the chart. It can now be moved into any desired position on the chart, guided by means of the four cursor keys. By pressing the spacebar you can toggle between fine, slow movement of the text and fast, coarse movement for each press of a cursor key. Once you're satisfied with the text's position, pressing Return "fixes" it to the graph and you're given the chance to add more text.

## SAVING SCREENS

INDIVIDUAL screens may be saved for use in other programs – such as a "slide show" type of presentation – or for reloading into the graphics module at another time. This option allows the screen to be saved and then printed out on a

non-standard printer by using a commercial screen dump.

To save a screen, simply press **Ctrl+S** when your display is complete. You will be asked to give a filename.

To load a screen, press **Ctrl+L** instead of making an icon selection. You will be prompted for the filename of the screen to be loaded. Once it is loaded, the chart will be drawn and you will be able to add more text or print out the display.

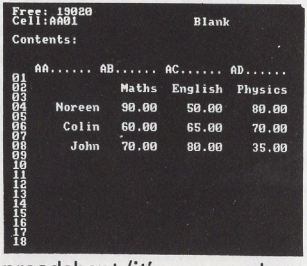
## GRAPHICS TUTORIAL

*NOW that we've had a look at the Graphics module's commands, let's have a go at using them in practice.*

Suppose that three friends of yours, Noreen, Colin and John took some exams and their marks were:

| | Maths | English | Physics |
|---|---|---|---|
| **Noreen** | **90** | **50** | **80** |
| **Colin** | **60** | **65** | **70** |
| **John** | **70** | **80** | **35** |

It wouldn't be hard to enter their results into a very simple spreadsheet like that illustrated. However, while all the figures are there, it's hardly all that visually compelling. Unless you're into raw statistics, you'll probably agree that the figures would make more sense if they were represented graphically. And it's not hard to achieve this, as we'll see.




The first thing to do is to take the data from the spreadsheet (it's assumed you have the spreadsheet in memory). This is done by going to the Spreadsheet menu and selecting the SAVE GRAPHICS DATA option. You simply move through the menu using the cursor up and down keys until that option is highlighted. Pressing

Return then results in the question:

**Is data in (R)ows or (C)olumns**

In this case we'll be saving the data values from along the rows, so we reply **R**. If we were taking figures from down a column we would reply **C**.
As soon as we reply with **R** the computer asks:

**Row for labels:**

As the labels – Maths, English, Physics – are all on row 2 of the spreadsheet we enter **2** and press Return. The first cell number on the label row (row 2) will be displayed at the top of the screen. The prompt at the bottom asks whether we want to use the label. Since this cell is empty press N.

Now at the top of the screen the next cell number is shown together with its contents. Since we want all three labels — Maths, English and Physics — pressing Y three times will result in selecting all these labels and a new screen is then displayed prompting for the first data row to besaved.

Let's first look at Noreens marks by replying 4 and pressing Return. Noreens marks are now displayed and you are asked whether this data is OK and pressing Y will prompt for another data row (Y/N). Press Y and reply 6 for Colins marks and then 8 for Johns. After Johns marks and the prompt for another data row, pressing N will result in the screen clearing and you being prompted for a filename. Let's call it 'marks'.

The result of all this is that we now have a file on the current filing system ccontaining the values of nine cells, three each for Noreen, Colin and John from the Spreadsheet. And we can use the Graphics module to create an illustration of the spreadsheet from these files.

Let's make a bar chart that shows the three sets of marks side-by-side. Use the appropriate menu choices to leave the Spreadsheet and enter the Graphics module. When you're faced with the main Graphics menu, select LOAD/SAVE and then the LOAD FILE option. This tells the computer that you want to take data from the current filing system and put it in a data set(s) in memory. You are then prompted for a filename to which you reply MARKS, press Return and the data is taken from

disc or tape into memory. Should the file not be found – probably because we've misspelt the name – we can press any key and have another go. Once the data has been transferred to memory return to the main Graphics menu.

We now have three data sets in memory and are faced with the main Graphics menu again. To start to draw a bar chart using the data from our simple spreadsheet all we have to do is to select the BAR CHART option in the usual manner and press Return.

The screen will clear and five icons will appear on its right. Let's select the second icon down by using the cursor keys to pick it out – its background goes dark – and then pressing Return. This icon depicts the side-by-side bar chart we want to use to show how the three sets of marks compare. As soon as it's selected we're faced with the message:

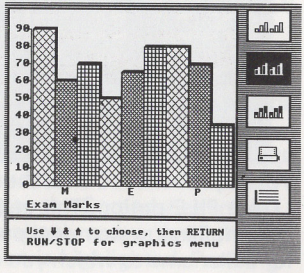
**3D Barchart Y/N ?**

Replying **Y** to this has the computer asking us:

**Auto scaling Y/N ?**

and we'll reply **Y**. The Graphics module now draws the desired bar chart.

However, this isn't the end of things. As you'll see, the chart has no labels apart from the initials of the three subjects. The module is willing to do something about this as the plaintive:




**Text Y/N ?**

message indicates. Replying with **Y** has:

**Underlined Y/N ?**

asking if you want your label underlined. Give

another **Y** and the message:

**Enter your text**
**?**

prompts you. Type in Exam Marks and press Return. You'll see the underlined words leap to a position above the graph. Now we could use the cursor keys to move the text around the screen, but it's fine where it is. Press Return and the text will be fixed while the:

**Text Y/N ?**

message appears again at the bottom of the screen. As we don't want any more text just answer **N** and you'll be prompted to select another icon or press Stop to go back to the Graphics menu. Selecting the printer icon, pressing Return and replying to the prompts will result in a hardcopy version of the chart – providing that you've got a suitable printer.

You can also try saving the screen by pressing **Ctrl+S**. This will prompt you for a filename and save the screen to that file. Now pressing **Ctrl+L** instead of making an icon selection will result in the file of your choice being loaded, with the graph being automatically re-created on the screen. You can now add more text and print out a copy of the chart if you wish.

And, if you've followed all that, you're well on your way to mastering the graphics package. Try going through it again giving different answers to the prompts. You could maybe use only 2 data sets, draw a stacked bar chart or move on to pie charts and line graphs. By the time you've finished you'll appreciate how simple-to-use yet powerful the Graphics module is.

# INTRODUCTION

COMMUNICATION between computers is only possible if they share a common protocol. A protocol is simply a way of interpreting the electronic signals passing between the two computers. If they both share the same protocols they're able to talk to each other in a common language. However, the continuing rapid growth of communications networks has resulted in an ever growing number of protocols, each involving different characteristics.

Fortunately the Mini Office II Communications module takes all the chore out of linking your computer to another by offering the commonly used protocols on a menu. All that is needed is to select the link required: Mini Office II will organise the correct protocol. You do not need to know anything about what the software is doing, or the characteristics of the link itself.

For those who wish to link to other systems which use non-standard protocols there is an option which enables individual characteristics to be entered. Consequently Mini Office II can be used to connect your computer to virtually any computer which is capable of communications. The package can be used, either with a serial modem connected to an RS232C interface plugged into the user port or a Commodore Communications Modem (Compunet).

The most common method of connecting two computers is by means of the telephone. To do this you will also need a modem, a device which converts signals from a computer into a form which can be carried over the telephone system.

Using an RS232C interface your Commodore can also be connected directly to another computer with similar interface but the two computers will have to be close enough together for a suitable cable to be used as a direct connection. This cable should never be more than about 15 metres in length.

There are two communications programs on your tape or disc – one for each of the types of modem described. The operation of both programs is basically the same so we'll first describe how to use the program for the serial modem, then outline the differences in the Compunet modem package.

# GOING ONLINE

*WHEN you select the Communications package you will be given another menu offering four choices. Before discussing the options, we'll deal with the last menu item first of all:*

**RETURN TO MINI OFFICE II MENU** *(disc version)*

*or*

**EXIT PROGRAM** *(tape version):* This is the only route out of the Communications module. It is used when you wish to work with another of the Mini Office II programs such as the Spreadsheet.

As you can see, the menu provides the two most common protocols, those of the MicroLink/Telecom Gold network. In addition there's a Customised Protocols option for "do it yourself" communications. Initially it's configured to take you straight onto MicroLink/Telecom Gold (300).

Picking one of these three takes you to a sub-menu giving you the choice of:

- **Communicate** – taking you straight into communications or chat mode, as it's known.
- **Buffer Options** – deciding how to store the data communicated.
- **Protocol Options** – selecting a common "language" to talk in, if you want a non-standard protocol.
- **Display Options** – choosing how the data is presented.
- **Communications Menu** – returning you to the previous menu.

These options combine to give an extremely powerful communications capability. To gain some idea of their scope and flexibility, we'll now examine each one in detail.

# COMMUNICATE

*THIS opens the link and waits for you to make connection with the other computer. While you are in communication there are a number of functions you can carry out without losing the line, all controlled by the function keys. A summary of the keys are at the back of this manual but their details are as follows:*

***Stop*** **RETURN TO MENU.**

***f1*** **CAPS LOCK:** Toggles between your typed input being in upper or lower case.

***f3*** **TRANSMIT A FILE:** Puts this message on the screen:

**Transmit File: 0. Abort 1. Ascii 2. Expanded Ascii**

You should press 1 for normal communications purposes. But when you want to send non-Ascii characters, such as a program written in machine code or a file containing control codes, you will need to use the Expanded Ascii option, assuming that the system you're communicating with is capable of handling expanded Ascii. You will see the message:

**Buffer opened**

Data that you have previously loaded into the buffer will be transmitted down the link automatically. After a delay, which depends on the length of the file and the line speed you are using, you will see the message:

**File transmitted**

If, having selected ***f3***, you change your mind, pressing 0 aborts the operation and takes you back to chat mode without any file transfer.

***f5*** **RECEIVE A FILE:** Puts this message on the screen:

**Receive File: 0. Abort 1. Ascii 2. Expanded Ascii**

The procedure to follow is the same as for transmitting a file. When you wish to end a transmission press ***f5***.

As a safeguard, if an error occurs during transmission a Xoff is automatically sent to stop communications. When you re-enter communications mode, you signal your readiness to accept data with a ***Ctrl+Q***.

***f7*** **CHANGE TEXT COLOUR:** Steps through the six available colours for text.

***Shift+f1*** **OPEN A WINDOW:** This draws a line at the bottom of the screen to separate text you are transmitting from text that is being received. Data from the other computer appears above the line, while everything you are sending appears below the line.

***Shift+f5*** **CHANGE LOCAL ECHO:** Toggles between ON and OFF.

***Shift+f7*** **CHANGE BACKGROUND COLOUR:** Steps through the 16 available colours for the background.

***Ctrl+f1*** **SWITCHES FILTER:** Toggles between ON and OFF.

***Ctrl+f3*** **AUTOMATIC LINE FEED:** Toggles between ON and OFF.

***Ctrl+f5*** **CHANGE XON/XOFF:** Toggles between ON and OFF.

***Ctrl+f7*** **CHANGE BORDER COLOUR:** Steps through the 16 available colours for the border.

## BUFFER OPTIONS

*THESE options enable you to make far more efficient use of your communications link. They will help you save time when transmitting lengthy files, and also save you a considerable amount in telephone charges. They include an option enabling you to look at data prior to transmission or saving on file.*

**RETURN TO LAST MENU**: There are several routes by which one can reach this menu. This option steps you back to the menu you last used.

**LOAD BUFFER**: Loads a file into memory for subsequent uploading to the distant computer via the modem.

When selected, this option opens a window on the screen, which displays the following message:

**Enter Filename:**

Entering the name of the file and pressing Return will cause a file of that name (if available) to be loaded into the Memory buffer. Tape users should note that they can only load normal tape format files. Files created by the Mini Office II Database, Spreadsheet or Label printing program cannot be loaded. Once loaded, the length of the file in the buffer will be displayed below the menu.

**SAVE BUFFER**: The reverse of LOAD BUFFER, this saves the contents of the Memory buffer to tape or disc. After Entering the filename you will be prompted for the file type – Basic, Ascii or Binary. Choosing Ascii will save the buffer as a sequential or a data file and selecting Basic will save the buffer so that it can be loaded back in as a Basic program. The final option, binary, allows you to enter the address that you wish to load the program back at. When you are prompted, enter the address in hexadecimal and press Return.

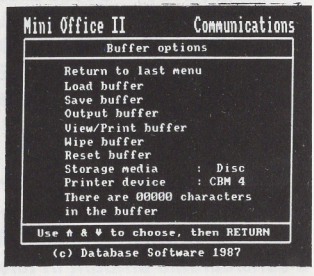
**OUTPUT BUFFER**: Once a file has been loaded into the buffer it may be sent or uploaded via the modem. This option outputs the Memory buffer contents out as quickly as the upload speed allows.

**VIEW/PRINT BUFFER**: Displays the contents of the Memory buffer – useful for checking prior to uploading via the OUTPUT BUFFER option. Obviously, if the file is, for instance, machine code this display will make little sense.

You'll also be prompted:

**Hardcopy (y/n)**

Entering **y** will send output to both printer and screen.




**WIPE BUFFER**: Fully clears the Memory buffer for reloading of fresh files. Because of the destructive nature of this option, a confirmation (y/n) is required.

**RESET BUFFER**: If a buffer output sequence is interrupted for any reason then

further buffer output will restart at the point you left off. If, however, retransmission in full is required this option allows you to start again from the beginning of the buffer contents. This is known as resetting the buffer, and does not wipe the buffer contents. You should also reset the buffer if you want to upload it to someone else.

**STORAGE MEDIA:** Allows you to choose whether to load and save from disc or tape. Pressing Return toggles between the two types.

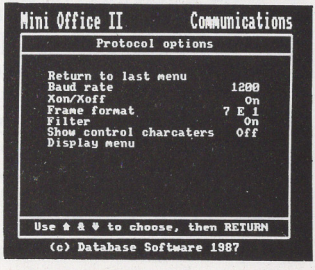
**PRINTER DEVICE:** Pressing Return toggles between the output device for printing. Unfortunately Centronics cannot be fully supported as the RS232C interface uses the same port on the Commodore 64. If you wish to use the RS232 printer option you will have to first disconnect the modem and connect the printer to the interface.

## PROTOCOL OPTIONS

*For systems other than MicroLink/Telecom Gold, the various protocols may have to be selected. You can choose from:*

**BAUD RATE**: As well as the preset data transmission rates given in the main menu both the receive and transmit baud rates may be set. The software built into the Commodore computers does not allow split baud rates so the rate specified is for both directions. You step through the options by pressing Return.

**XON/XOFF**: When sending to printer or disc, the speed of the incoming data often exceeds that of the rates at which it can be handled. In order to prevent any characters being lost, a convention known as Xon/Xoff is applied. Put simply, a command (Xoff) is transmitted to the distant computer to instruct it to cease transmission. Once the local system has recovered sufficiently to be able to accept more incoming data, a further instruction is sent to the distant computer (Xon) requesting recommencement of data.




This option only affects how *your* micro handles Xon/Xoff from the remote system. It does not affect its own use of Xon/Xoff to

control data flow when receiving a file.

The default condition is ON. In the rare circumstances when it is not required, the menu option toggles between ON and OFF. *(Pressing **Ctrl+f5** performs the same function.)*

**FRAME FORMAT**: Because of the wide variety of data terminals in existence today the number of data, start and stop bits vary considerably. This option allows you to step through a variety of formats by pressing Return. Most systems will function perfectly adequately using the default frame format selection (as used on MicroLink and Telecom Gold).

**FILTER**: The computer requires only 7 bits to represent text shown on the terminal. Data in the computer is handled as chartacters of 8 bits (called a byte), so the eighth bit can be ignored. Enabling the filter makes the eighth bit of every character zero. *(Pressing **Ctrl+f1** performs the same function.)*

**SHOW CONTROL CHARACTERS**: As with the filter, this option allows certain incoming control characters to be displayed on screen. When enabled, these characters are displayed with a preceding ↑. This option is normally set to OFF.

**DISPLAY MENU**: Takes you directly to the Display options menu

Once you have set the protocols to your own requirements, selecting CUSTOMISED PROTOCOLS from the main menu will return you directly to this configuration. If you have not actually customised the protocols, this option defaults to 300 baud with a frame format of 7 E 1.

## DISPLAY OPTIONS

*THE final menu option in the Communications section controls the way in which the files you transfer are displayed or printed. You step between options by pressing Return.*

**CAPS LOCK**: This option selects whether alphabetic characters you type in from the keyboard are upper or lower case. *(Pressing **f1** performs the same function.)*

**AUTO LINE FEED**: Certain online systems require that a line feed be added to a carriage

return. This requirement is usually only found on US databases. The default option is for the auto line feed to be switched OFF.

If incoming data written to the screen is overwriting itself, turning this option ON will remedy the problem.*(Pressing **Ctrl+f3** performs the same function.)*

**LOCAL ECHO**: As with the line feed option, some online systems do not reflect data typed or output back to your screen. This situation occurs mostly when entering chat mode on US and European databases MicroLink/Telecom Gold does not cause any problems in this respect. To allow data to be reflected directly from the keyboard to the screen, this option should be turned ON. It is normally set to OFF.*(Pressing **Shift+f5** performs the same function.)*

If selected, and data from the distant computer system is being reflected back to your screen, then double registering of characters on-screen may be experienced.

In certain chat mode situations, the following WINDOW option may prove more appropriate.

**WINDOW**: On interactive system options such as chat and multi-user games, the incoming data may well conflict with outgoing keyboard data, resulting in a confusing mixture of data being displayed on screen.

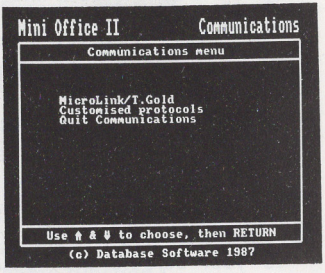
To counteract this problem, this facility moves the existing text window up a few lines from the bottom of the screen, thus creating a further text window separate from the normal terminal text. Incoming data scrolls as usual to the upper (large) window, but any outgoing data generated via the keyboard is placed in the lower window. The default condition is OFF. *(Pressing **Shift+f1** performs the same function.)*

This facility is particularly useful when a multi-user conversation via an online service is taking place, for example, chat on MicroLink or conversation mode on Multi-User Dungeon (MUD) adventures.

**PROTOCOL MENU**: Takes you directly to the Protocal options menu.

# COMPUNET MODEM COMMUNICATIONS

*THIS version of the Communications program operates in a similar way to that of the previous section but with a few modifications. The first difference that you'll notice is that the main menu only has options for MicroLink/Telecom Gold, Customised Protocols and Quit Communications. This is because the baud rate cannot be selected on a Compunet modem and is fixed at 1200 receive, 75 transmit.*




**Communicate section:** There are two additional commands which are:

***Shift+f3*** **DIAL NUMBER:** You will be prompted:

**Dial Number:**

You then enter a telephone number up to 15 digits long and this can be edited with the delete key. A minus (–) character will cause the dialling to pause for 1.5 seconds, which is a useful feature if you use a private switchboard and have to dial a number and wait to get an outside line. When you have entered the number, press Return and it will be dialled after a four second wait. Each digit is highlighted as it is dialled and when the whole number has been dialled you will see the message:

**Connecting**

The computer will then wait for the call to be answered and you will then wait for the call to be answered and you will then be able to communicate. If there has been no reply after one minute you will see the message:

**No answer**

At any time during the inputting, dialling or connecting stage you may abort the call by pressing Stop.

***Ctrl+Stop*** **DROP THE LINE:** This will cause the connection to the telephone line to be dropped.

**Buffer Options section:** Centronics printers can be used because the Compunet modem does not need the user port.

**Protocol Options section:** There is no baud rate selection as the only baud rate allowed is 1200/75.

# INTRODUCTION

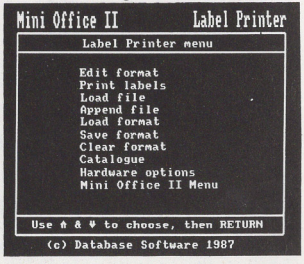
THE Label Printer allows you to print sheets of labels. These sheets can consist of identical labels (for example to label products) or a set of individual labels, each taken from successive records of a database file (for example addresses). Either way, the labels will be printed to a fixed template or format that you have designed.

If you are going to use a database file, your first task is to create the file, each record of which will give rise to a separate label. If you haven't already done this, turn to the Database section on creating files and follow the instructions there.

Once the LABEL PRINTER has been loaded, you will be presented with the menu described below. Some of the options have supplementary menus within them to enable more detailed selections to be made.

**LOAD FILE**: Retrieves a Database file from the current filing system. This, of course, is your first operation on entering the label printer if you intend to print labels from a Database file. Be warned: it will overwrite any file at present in memory. It will not, however, affect any format already designed or loaded.

**APPEND FILE**: Adds data to the end of the file currently in memory, provided that there is room. This option is similar to LOAD FILE, but leaves what's in memory intact, adding to it rather than replacing it.




**CATALOGUE**: Displays a list of all the files that are present on your disc but this option does not work with tape.

**EDIT FORMAT**: This has two functions. Firstly it allows you to define what appears on your label, either directly by typing in text, indirectly from a Database file (specifying field numbers), or by combining both methods. Of course, if you were printing a set of identical labels, you'd simply enter straight text. Specifying field numbers gives you the chance to make each label different. Secondly, this option allows you to

tailor the printout to the size of stationery your'e using. We consider this option in more detail later.

**CLEAR FORMAT**: Resets all the values in the Edit format menu to their initial settings and clears the actual label design.

**LOAD FORMAT**: Loads into your micro a label design and size that has been previously stored on the current filing system. The operation will overwrite any format that has already been set up, but any file in memory will be unaffected.

**SAVE FORMAT**: Saves the current label design and the figures that define its size to the current filing system for future use.

**PRINT LABELS**: Takes you to the Print labels menu, where you can set the number of labels to print, do test prints to align your printer and send any necessary codes to configure your printer.

**HARDWARE OPTIONS**: Takes you to a sub-menu which allows you to select both the storage media (either disc or tape) and the printer device you wish to use.

**MINI OFFICE II MENU** *(disc version)*

*or*

**EXIT PROGRAM** *(tape version):*The only route out of the Label Printer. On the tape version it completely wipes the memory so that you can load other programs. The disc version will present you with the Mini Office II menu, where you can select one of the other modules, or exit the package. Make sure you have saved any format you wish to keep before choosing either option.

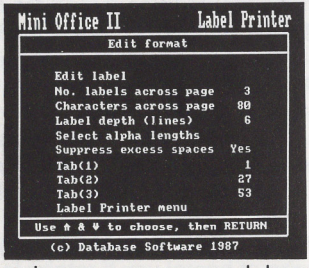
## FORMATTING LABELS

*WHEN you select EDIT FORMAT you will be given the following options to allow you to design your labels and set the various sizes required for the printout. The first thing to change on this menu is the variables that affect the size of label. These are the number of labels across the page, the page width and the label depth.*

**EDIT LABEL**: Takes you into Edit mode, where you design your label. You should select this option after you have set the values that determine the size of the labels. Provided that your label is not too large for the screen, a box will be

displayed for you to enter the details of your label into. This is known as the edit screen.

If your label is too large for a suitable box to be displayed on the screen, you will be given the option to continue or use a standard printout, which consists of the field names followed by the contents printed one below the other. You will usually opt to continue and will then be presented with the largest edit screen that will fit onto the full screen.




Text can be entered anywhere on the edit screen. You select the required position using the cursor keys, then simply type your text in. If you want to include a field from the Database – as you will if each label is to be different – just enter # followed by the field number. Each time a label is printed, the contents of that field will appear there, taken from successive Database records. You can find the titles of the fields for a file in memory by pressing *f7*, and using the cursor keys to move up and down the list displayed at the bottom of the screen. Pressing Return will return you to Edit mode.

You leave Edit mode using Stop, and will usually at this stage be ready to print the labels. You can re-enter Edit mode and alter your design at any time, but not, of course, figures such as page width or else you lose your design.

**NUMBER OF LABELS ACROSS THE PAGE**: Enter a number between 1 and 7 and press Return. This number, together with the characters across page, is used to calculate the width of the labels.

**CHARACTERS ACROSS PAGE**: Enter the width of your page in characters. This will vary between printers, and also depend on the style of type that you intend to use.

**LABEL DEPTH**: Enter the maximum number of lines that can be printed on your labels. Remember that a change in this value, or the width or number of labels across the page, will erase any label already designed.

**SELECT ALPHA LENGTHS**: Takes you into a screen where you can select the length of any individual alpha field to print out. The field title and length initially

set up in the Database will be displayed and selecting a particular field will pompt you with a flashing cursor in the last column. Just enter the number of characters you want printed.

**SUPPRESS EXCESS SPACES**: If this is set to YES, only spaces shown on the edit screen will be printed – spaces at the end of fields will be ignored. This means that if there are spaces at the end of a database field, and it is followed by some other text, the number of spaces left between the two items on the label will be the number shown on the edit screen. If you set the option to NO, the data in that field, followed by the necessary number of spaces, will be printed – the total length being as defined in the Database file structure.

**TAB**: Tab refers to the number of character positions from the left of the sheet that the label will start printing at. There is a Tab value shown for each label, and these are automatically calculated depending on the number of labels across the page and the width of paper. If, after a test print, you find that the edge of any label is not exactly in the required position, it can be changed by entering a new value.

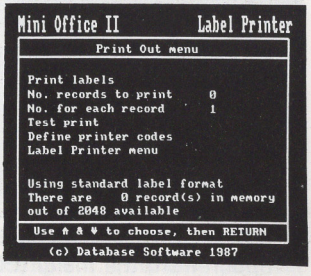
## PRINTING LABELS

*WHEN you select PRINT LABELS you will be presented with the following options:*

**PRINT LABELS**: Prints labels according to the format you have defined or loaded. After printing the first row of labels, the number of labels left to print will be displayed together with an estimate of how much time is required to print them. This estimate is based on how long it took to print the first few labels and can be inaccurate if large printer buffers are used.

**NUMBER OF RECORDS TO PRINT**: Shows the number of labels to be printed. If no file is in memory – that is, you are printing the same label repeatedly – you must set this value yourself. If there is a file in memory, the value will be automatically set to the number of records in the file.

**NUMBER FOR EACH RECORD**: If you want more than one label for each record then this



value can be adjusted accordingly. For instance, if you want five of each, just enter the number 5.

**TEST PRINT**: Allows you to check that the chosen format is correct and that the labels are correctly aligned in the printer. Two rows of labels are printed, with text as you defined it and asterisks to represent the maximum length of any fields that you are using from a Database file.

**DEFINE PRINTER CODES**: Allows access to the special features of any printer by sending the appropriate control codes. After you select this option, you will be presented with a colon (:) on the screen. Enter the character numbers of the characters to send to the printer at this prompt separated by commas. Keep entering characters until the sequence you require has been entered and then press Return.

For example, if you want to print labels in italics on your Epson printer, type 27,52 followed by Return. You can edit previously entered codes using the cursor right, comma and *f7* keys.

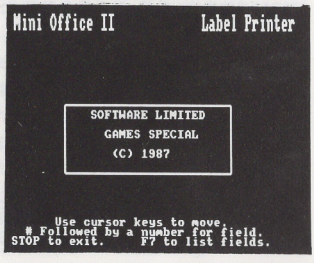
Further details about control codes may be found in the introduction.

## EXAMPLES

*NOW that you have read the theory of each option of the Label Printer, let's try printing some labels. First we will print 100 identical disc labels and then a set of address labels (each different) using the file created in the example given in the Database section of this manual.*

**EXAMPLE 1**: From the Label printer menu, select EDIT FORMAT. We want four labels across the page, so move the highlighted section to NO. LABELS ACROSS PAGE and press the 4 key followed by Return. In the same way, change the label depth to 5 lines.

You will now notice that you have four tabs set at 1,21,41,61. Leave these at present, and come back to this menu to change them if your test print shows slight mis-alignment. You are now ready to type in your label, so select the top option from the menu (EDIT LABEL).



You should now have a framework on the screen, and you can enter any text you like by typing it and using the cursor keys to move around the label. The accompanying screen shows an example of how your label should look. Once you are satisfied with it press Stop twice to return to the Label printer menu.

To start printing, select PRINT LABELS and then change the number of records to print to 100 and number for each record to 1. Ensure your printer is connected and do a test print to ensure everything is correctly aligned. If any adjustment is needed to the tabs, press Stop to return to the Label printer menu, Select EDIT FORMAT, adjust the tabs, press Stop and select PRINT LABELS ready to do another test print.

Once you are satisfied with the position of the printing, select PRINT LABELS, and your 100 labels will be printed.

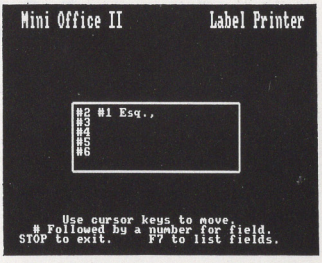
The number of labels remaining, is displayed as they are printed.

**EXAMPLE 2**: As you were experimenting with the Database, you created a file containing names, addresses and some information about members of a club or association. This has been saved with the filename MEMBERS and we will now use this file to print address labels (which also contain the product code).

After loading the Label Printer, select LOAD FILE, and enter the filename MEMBERS when prompted.

We will assume that the default sizes of label and paper are correct, so select EDIT FORMAT, and press Return twice to go straight to the label editing screen.

The first 5 lines are to contain the name and address, as read from the file, so just enter # 2 #1 on the first line, # 3 on the second and so on up to # 6. Put the word Esq and punctuation in the framework, so your screen looks like the illustration.




Press Stop twice to return to the Label printer menu, select PRINT LABELS and follow the same procedure as you did with Example 1. This time you will

notice that the number of labels has been automatically set to the number of records in your file. If you want, for example, two of each label just alter the number for each record to 2.

# WORDPROCESSOR KEY SUMMARY

*Move*

| | |
|---|---|
| → | Move right 1 character |
| ← | Move left 1 character |
| **Ctrl+←** | Move to start of line |
| **Ctrl+→** | Move to end of line |
| ↓ | Move down 1 line |
| ↑ | Move up 1 line |
| **Ctrl+↓** | Move to end of text |
| **Shift+Home** | Move to start of text. |
| **Logo+Del** | Move left one word |
| **Logo+→** | Move right one word |
| **Home** | Move up one page |
| **Logo+↓** | Move down one page |

*Delete*

| | |
|---|---|
| **Del** | Delete to left of cursor |
| **Ctrl+A** | Delete under cursor |
| **Ctrl+f5** | Delete line from cursor |
| **Ctrl+f3** | Delete word |

*Block*

| | |
|---|---|
| **f3** | Insert marker |
| **Shift+f3** | Copy block |
| **Shift+f5** | Move block |
| **Shift+f7** | Delete block |
| **Logo+f5** | Delete markers |
| **Logo+f1** | Count words in block |
| **Logo+f3** | Find next marker |

*Colour*

| | |
|---|---|
| **Ctrl+1** | Change text colour |
| **Ctrl+2** | Change background colour |
| **Ctrl+3** | Change border colour |
| **Ctrl+4** | Change status line colour |
| **Ctrl+5** | Change start & end markers colour |
| **Ctrl+6** | Change embedded command colour |

*Other keys*

| | |
|---|---|
| **f1** | Toggle Insert/overwrite |
| **Ctrl+H** | Toggle keyboard click |
| **Ctrl+I** | Insert tab |
| **Ctrl+K** | Toggle keyboard click |
| **Ctrl+L** | Character to lower case |
| **Ctrl+S** | Toggle case of character |
| **Ctrl+U** | Character to upper case |
| **Ctrl+Space** | Insert hard space |
| **Ctrl+@** | Insert page number character |
| **Shift+f1** | Display typing speed |
| **Ctrl+f1** | Search for character |
| **Shift+Del** | Insert space |
| **f5** | Start embedded command |
| **f7** | End embedded command |
| **Stop** | Exit edit text |

# SPREADSHEET KEY SUMMARY

**Function keys:**

| | | | |
|---|---|---|---|
| **f1** | Delete Cell | **f2** | Delete column |
| **f3** | Update | **f4** | Delete row |
| **f5** | Enter formulae | **f6** | Insert column |
| **f7** | Edit cell | **f8** | Insert row |

**HOME** Move cursor to AA01

**Ctrl or Logo in conjunction with:**

| | | | |
|---|---|---|---|
| **1-7** | Change screen colours | **N** | Unlock column |
| **A** | Auto cursor direction | **O** | Copy column |
| **B** | Lock row | **P** | Copy row |
| **C** | Enter text centred | **Q** | Scroll mode |
| **D** | Change column decimal places | **R** | Enter text justified right |
| **E** | Evaluate expression | **S** | Enter string |
| **G** | Goto cell | **T** | Enter text |
| **H** | Help screens | **U** | Auto update On/Off |
| **I** | Instant save | **V** | Lock column |
| **J** | Change cell justification | **W** | Change column width |
| **K** | Lock/Unlock cell | **X** | Copy cell |
| **L** | Enter text justified left | **Y** | Change column decimal places |
| **M** | Unlock row | **Z** | Zero numeric cells |

# COMMUNICATIONS KEY SUMMARY

| | | | |
|---|---|---|---|
| **f1** | Toggle caps lock | **Shift+f7** | Change background colour |
| **f3** | Transmit file | **Ctrl+f1** | Switches filter |
| **f5** | Receive file | **Ctrl+f3** | Automatic line feed |
| **f7** | Change text colour | **Ctrl+f5** | Change Xon/Xoff |
| **Shift+f1** | Open window | **Ctrl+f7** | Change border colour |
| **Shift+f3** | Dial (Compunet only) | **Ctrl+Stop** | Drop line (Compunet only) |
| **Shift+f5** | Change local echo | **Stop** | Return to menu |

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